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9/14/98

SITE ASSESSMENT REPORT
FOR
DAELYTE SERVICE COMPANY
DETROIT, WAYNE COUNTY, MICHIGAN
TDD S05-9807-004
PAN 8U0401SIXX

September 16, 1998

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Emergency Response Branch
77 West Jackson Boulevard
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International Specialists in the Environment

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1. Introduction

On July 8, 1998, the United States Environmental Protection Agency (U.S. EPA) tasked the Ecology and Environment, Inc. (E & E), Superfund Technical Assessment and Response Team (START) to perform a site assessment at the Daelyte Service Company (Daelyte) site in Detroit, Wayne County, Michigan. Tasks to be completed under the TDD included: conduct a site visit; determine site characteristics (i.e., sensitive environments, site usage); determine pollutant dispersal pathways; develop and implement sampling and quality assurance plan; perform analytical data validation; develop and implement health and safety plan; conduct sampling activities on site; perform air monitoring; and document site conditions with written and visual documentation (photos, video, sketches, or logbook description). These activities were performed at the Daelyte site to evaluate the site's threat to human health and the environment based on Title 40 Code of Federal Regulations (CFR) 300.415, National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The START members conducting the site assessment with the U.S. EPA On-Scene Coordinator (OSC) Partap C. Lall, were Anne Hellie, Michael Dieckhaus, and Justin Bowerman. Photodocumentation of the Daelyte site assessment is presented in Appendix A.

2. Background

2.1 Site Description

The Daelyte site, an industrial cleaning and painting service, is an active commercial facility located at 1356 Mount Elliott Avenue in Detroit, Wayne County, Michigan (latitude 42°21'10" N and longitude 83°0'40" W)(Figure 2-1). The property consists of four separate buildings: an office building, a house, a garage, and storage building (Figure 2-2). Two underground storage tanks (USTs) are located on the property. The western UST has two openings located on the southwestern side of the storage building, and the eastern UST is located inside the storage buiilding (Figure 2-3). Size and contents of the USTs are unknown at this time. Continuous sections of chain-link fence are located on the northern, eastern, and western sides of the property. One gate is present on the eastern side of the subject property. A building adjoins the southern side of the property.

The Daelyte site is located in an industrial/residential area of the City of Detroit. The property is bordered to the southeast by a business, to the northeast by residences, to the southwest by Mount Elliott Avenue and Mount Elliott Cemetery, and to the northwest by a business. The nearest residence is approximately 100 feet east of the site. Surface runoff from the property flows to storm drains leading to the City of Detroit storm/sewer system.

2.2 Site History

Daelyte Service Company is a commercial business that operates as an industrial cleaning and painting contractor. The property is currently unoccupied. Two dogs and numerous cats reside at the property, and the owner visits the site periodically.

On December 19, 1997, START accompanied Resource Conservation and Recovery Act (RCRA) personnel on a site inspection at Daelyte. The site inspection addressed only the storage building and exterior parking area. START personnel noted the presence of two USTs located on the property. The western UST contained approximately 1 foot of an unknown liquid. The unknown liquid was measured in the UST at approximately 8 feet below ground surface. The eastern UST contained approximately 1 foot of suspected fuel oil.

Further investigation was completed inside the storage building. The storage building was divided into five areas: southeastern room, western room, garage room, northeastern A room, and northeastern B room. The garage room on the southern side of the storage building was approximately 3 feet lower than the rest of the building. Two, small walk-in storage rooms were located on the northeastern and southeastern corners of the

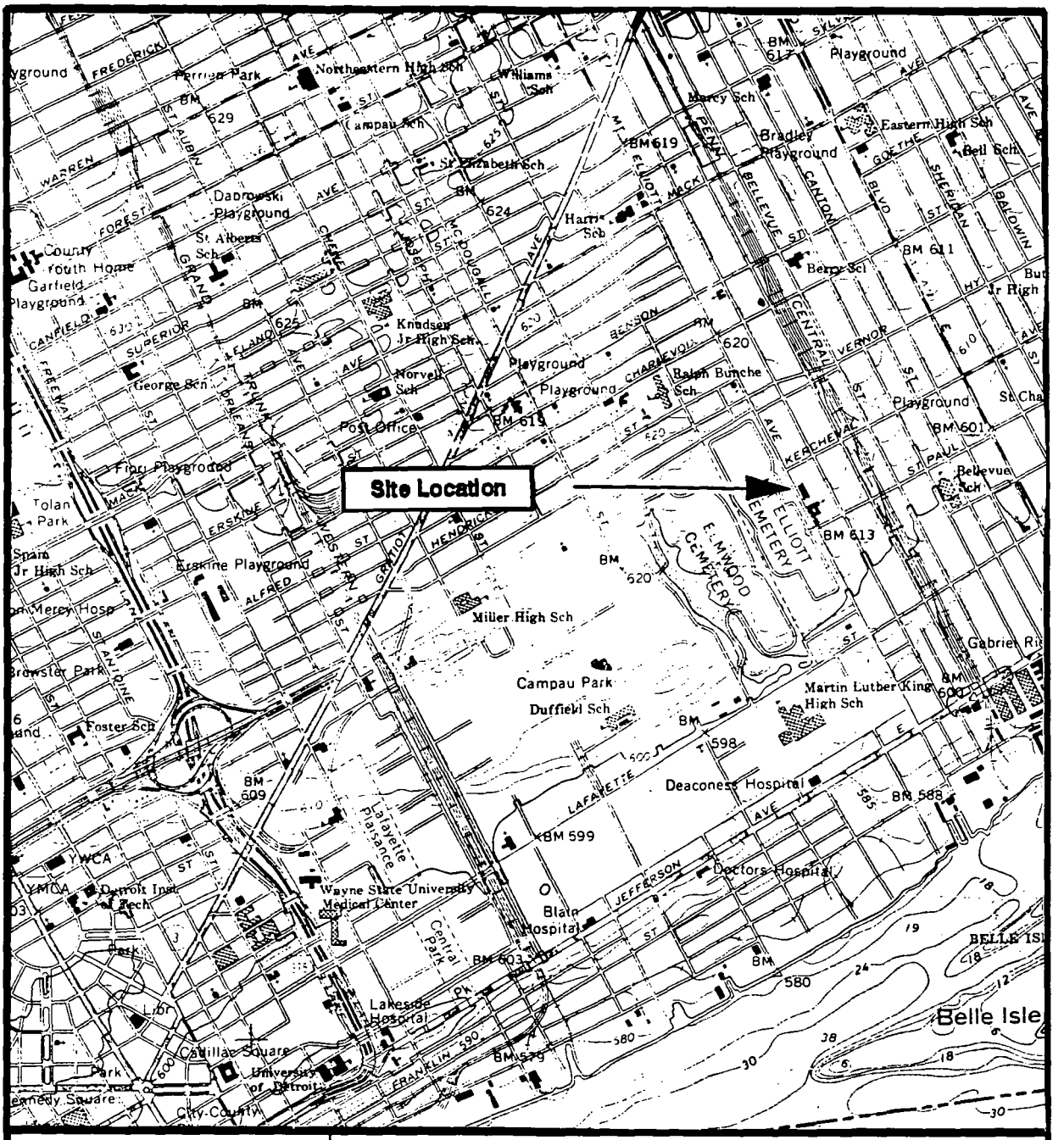
garage area. Several layers of shelving were located on the eastern wall of the northeastern storage room. START personnel documented approximately fifty 1-gallon cans of paint-related products stacked on the shelves.

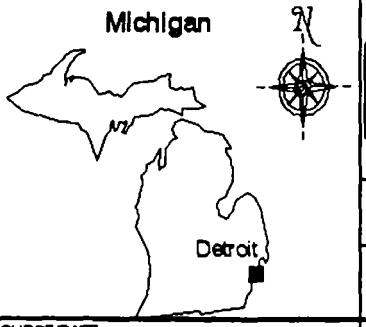
The southeastern room contained approximately one hundred and thirty 5-gallon containers stacked on the floor and randomly placed throughout the room. The room also contained approximately two hundred 1-gallon containers stacked on the floor and shelving along the eastern wall. Also noted was one 55-gallon drum with unknown contents.

The western room of the storage building was documented as having approximately 20 small containers, five 5-gallon pails, and three 55-gallon drums located in the northeastern corner. The small containers were stored on shelving located on the northern and eastern walls. A floor drain was observed in the northeastern section of the western room. The active status of the floor drain was not determined. The roof over the western section of the room was collapsed, and water was observed throughout the room. A number of the containers observed in this room were standing in pooled water and appeared to be physically deteriorated. Two additional 55-gallon drums were located in the southwestern area of the room.

The northeastern A room and northeastern B room were divided by a wire fence from floor to ceiling. The northeastern A room contained approximately 20 small containers on shelving. Four 1-gallon containers, labeled, "contains Phosphoric Acid," were observed on the shelving. The northeastern B room contained approximately 10 small containers on shelving.

Members of START conducted field pH measurements with pH paper to test the contents of one 55-gallon drum and two 1-gallon containers in the western room. The 55-gallon drum and one 1-gallon container had a pH measurement of 1 standard unit (s.u.). The other 1-gallon container had a pH measurement of 11 s.u. Two USTs were documented as containing possible fuel oil and an unknown liquid. No sampling was conducted due to RCRA personnel determining that this was not a storage/operating site to be enforced by RCRA.





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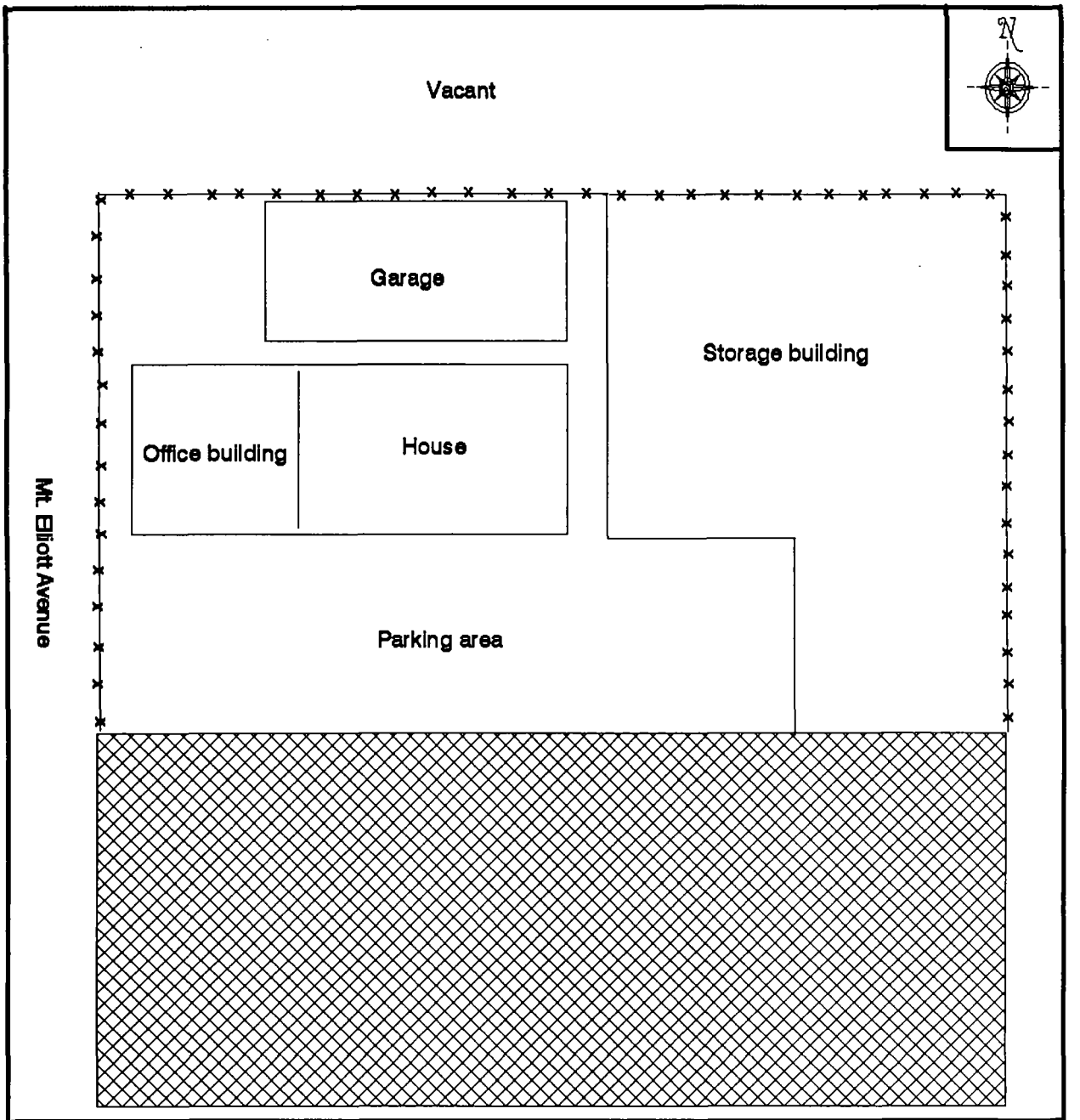
Superfund Technical Assessment and Response Team
Region 5

TITLE: Site Location Map		FIGURE: 2-1
SITE: Daelyte Service Company		SCALE: 1:24,000
SOURCE/DATE: USGS 7.5 Minute Series Topographic Map, Detroit, MI, 1968	CITY: Detroit STATE: Michigan	TDD: S05-9807-004



Legend

Adjacent building

Chain-link fence

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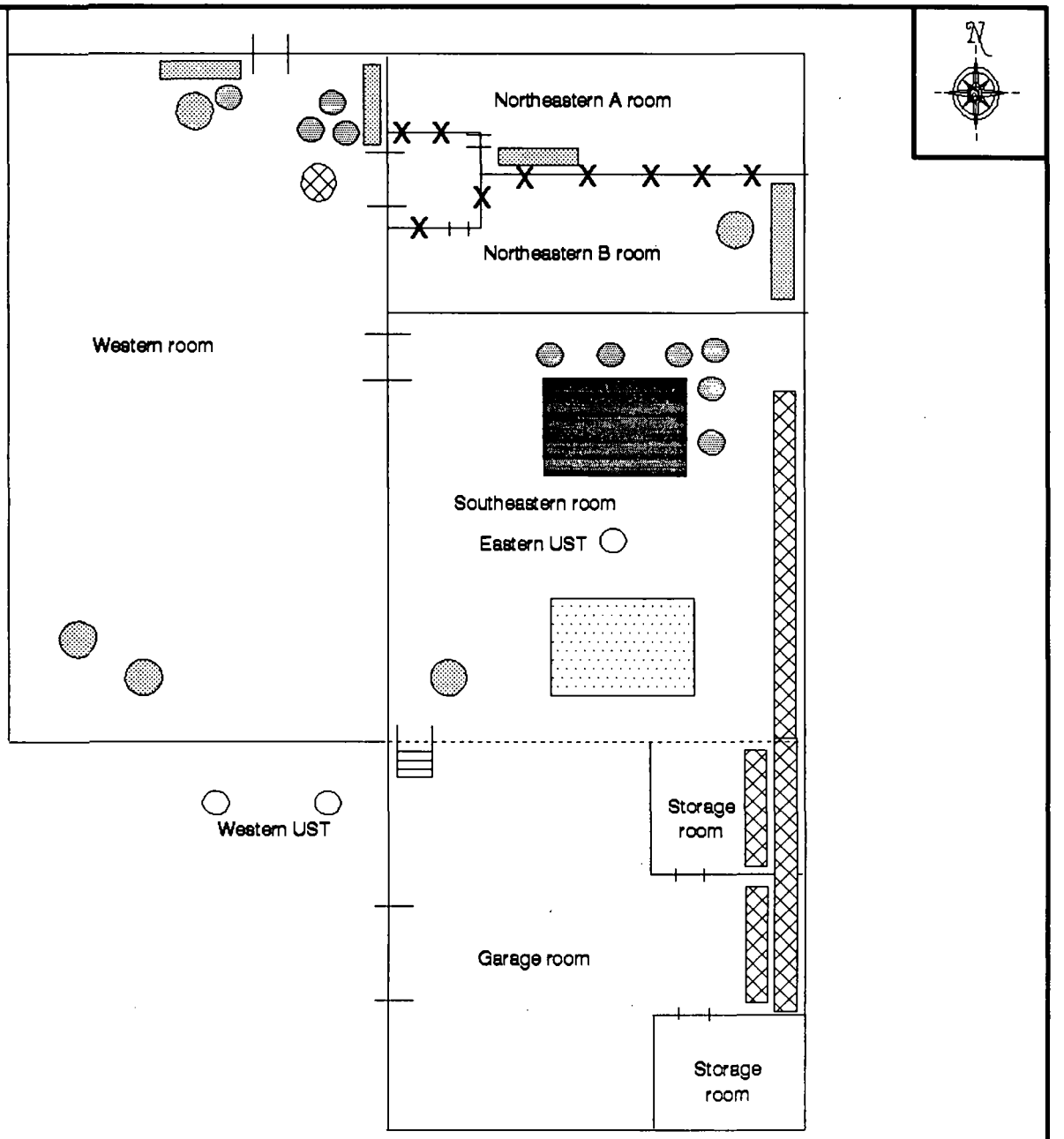
TITLE: Site Features Map		FIGURE: 2-2
SITE: Daelyte Service Company		SCALE: Not to scale
SOURCE/DATE: Ecology and Environment, Inc. January 7, 1998	CITY: Detroit STATE: Michigan	TDD: S05-9807-004



Legend

- Shelves of 1-gallon containers
- Shelves of small containers
- Floor drain
- 55-gallon drums
- 5-gallon drums
- UST access
- Pile of 5-gallon drums
- Pile of 1-gallon containers
- Wire fence
- Doorway

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TITLE: Storage Building Map		FIGURE: 2-3
SITE: Daelyte Service Company		SCALE: Not to scale
SOURCE/DATE: Ecology and Environment, Inc. January 7, 1998	CITY: Detroit STATE: Michigan	TDD: S05-9807-004

3. Site Activities

3.1 Site Assessment Activities

On August 12, 1998, START personnel, U.S. EPA OSC Lall, and an U.S. EPA civil investigator performed a site assessment at Daelyte to further evaluate the site's threat to human health and the environment based on Title 40 CFR, Section 300.415, NCP. Before conducting site assessment activities, a sampling plan was developed for Daelyte outlining the collection of samples by START personnel. The purpose of the sampling plan was to properly outline the materials and substances to be sampled at Daelyte and the analytical methods to be completed for the sampled materials.

U.S. EPA and START personnel met the owner of Daelyte on site. A site reconnaisance of the storage building was conducted to assess current site conditions. A flame ionization detector was used to detect volatile organic compound (VOC) vapors in the air. No readings above background were obtained.

The site reconnaissance started in the garage room of the storage building. The contents of the garage area were mainly scrap metal, shop tools, wooden pallets, and garbage cans. Members of the inspection team proceeded to the remaining portion of the storage building. START members noted that most of the 1-gallon and 5-gallon containers of paint that were scattered around the floor of the southeastern room during the December 19, 1997, site inspection, were stacked on pallets to be disposed by the owner. At least one 5-gallon bucket stacked on a pallet in the southeastern room was observed to have leaked its contents. According to the owner, the garage, southeastern, and western room floors had been scrubbed, and small containers in the western room were set on a pallet in the northeastern corner of the room. The owner also stated that paint containers were being evaluated, and containers of dried/solidified paint were being disposed as nonhazardous debris. Following the inspection of the western, southeastern, northeastern A, and northeastern B rooms of the storage building, START personnel identified one 55-gallon drum, 10 small containers, and both USTs to be sampled for laboratory testing.

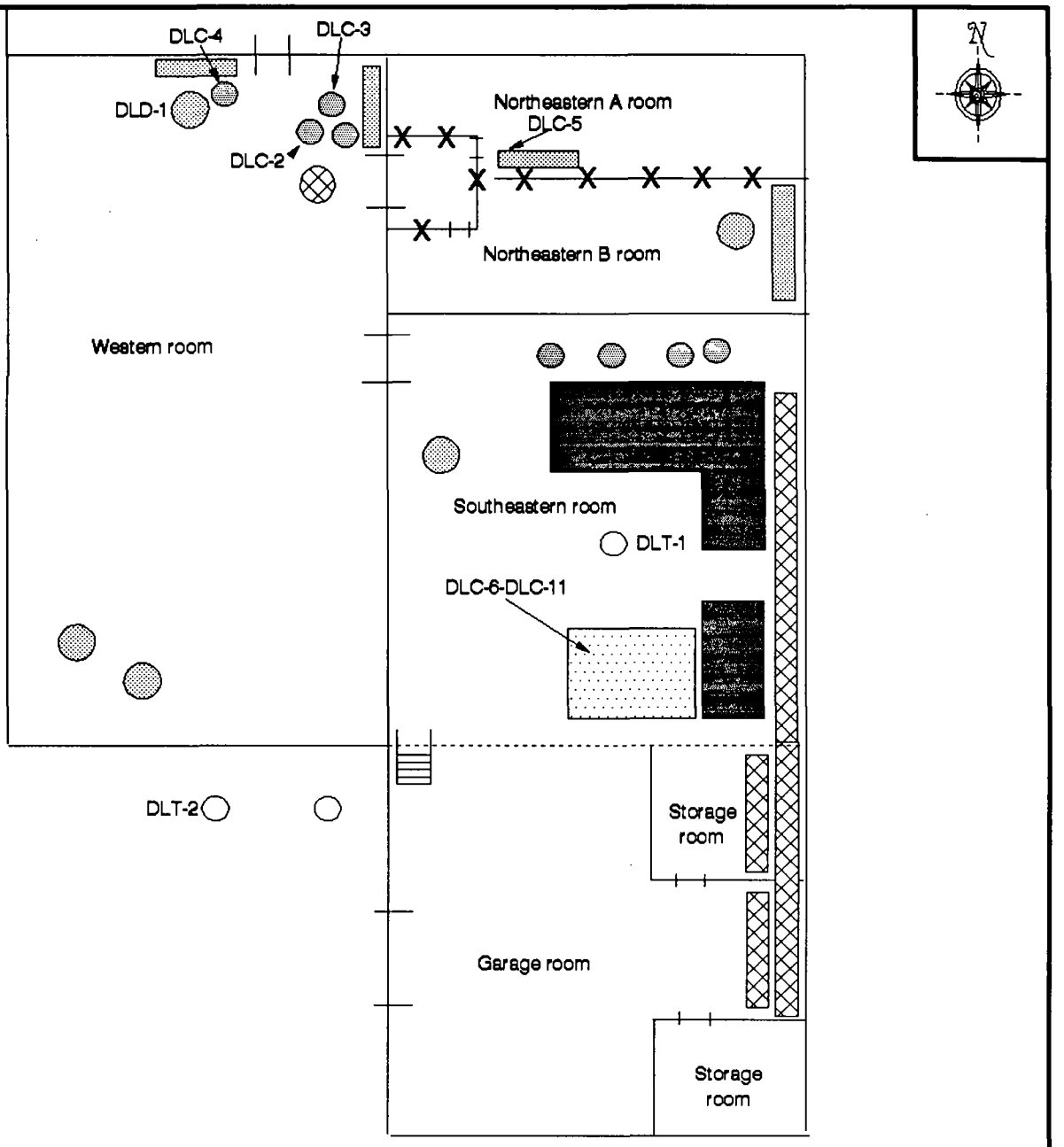
3.2 Sampling Activities

On August 12, 1998, START collected samples at the Daelyte site. Samples were collected according to the sampling plan. Prior to sampling the sources identified during the site reconnaissance, START personnel documented the location and labeled all tanks and containers to be sampled (Figure 3-1).

START members began sampling in the western room of the storage building. START personnel checked the pH of sources labeled DLD-1, DLC-2, and DLC-3 with pH paper. Results of the pH readings were as follows: DLD-1 was 1 s.u.; DLC-2 was 1 s.u.; and DLC-3 was 11 s.u. Sample DLD-1 was collected from a rusty, deteriorated, 55-gallon steel drum with a polyethylene liner. The drum was approximately half full with a liquid. Sample DLC-2 was collected from a 5-gallon polyethylene container filled with a pink, clear liquid. The container had an outside label reading, "Boyer's Restoration Cleaner R-1 (poison, acidic)." Sample DLC-3 was collected from a 5-gallon metal container with a collapsed, rusted lid labeled, "Penetone Products." Sample DLC-4 was collected from a 1-gallon glass container labeled, "Phosphoric Acid 85%," in the western room. DLC-5 sample was collected from a 1-gallon polyurethane container in the northeastern A room. The container was three quarters full and labeled, "Contains phosphoric acid."

A series of 1-gallon and 5-gallon containers filled with unknown liquids and paints were located in the southeastern room of the storage building. START members labeled the containers with the following identification: DLC-6, DLC-7, DLC-8, DLC-9, DLC-10, and DLC-11. Sample DLC-6 was collected from a 1-gallon container labeled, "Speedhide alkyd interior lo sheen enamel." Sample DLC-7 was collected from a 1-gallon container labeled, "Standardized Products." Sample DLC-8 was collected from a 1-gallon container labeled, "Alkyd enamel." Sample DLC-9 was collected from a 1-gallon container labeled, "Standardized products; stanolite semi-gloss enamel." Sample DLC-10 was collected from a 5-gallon container labeled, "Durako duracryl." Sample DLC-11 was collected from a 5-gallon container labeled, "Glidden endurance one-coat house paint." Following identification, START members measured the headspace of each container using a photoionization detector. Readings of the headspace of the containers ranged between 12 units and greater than 2,000 units above background. Sample DLT-1 was collected from the eastern UST, and sample DLT-2 was collected from the western UST.

Samples were sent to Safety-Kleen (ENCOTEC) Inc., Laboratory in Ann Arbor, Michigan, for analyses. UST samples were analyzed for total VOCs; total semivolatile organic compounds (SVOCs); total RCRA metals, plus copper and zinc; pH; flash point; polychlorinated biphenyls (PCBs); total petroleum hydrocarbons (TPHs); toxicity characteristic leaching procedure (TCLP) RCRA metals, plus copper and zinc; and total organic halides (TOX). Solids from samples DLC-9, DLC-10, and DLC-11 were analyzed for TCLP RCRA metals, plus copper and zinc. Liquids from samples DLC-6, DLC-7, and DLC-8 were analyzed for pH, flash point, and reactive cyanide and sulfide. Samples DLD-1, DLC-2, DLC-3, DLC-4, and DLC-5 were analyzed for pH.



Legend

DLD-# Drum sample
DLC-# Container sample
DLT-# UST sample

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Region 5

TITLE: Sample Location Map		FIGURE: 3-1
SITE: Daelyte Service Company		SCALE: Not to scale
SOURCE/DATE: Ecology and Environment, Inc. September 2, 1998	CITY: Detroit STATE: Michigan	TDD: S05-9807-004

4. Analytical Results

Samples collected from the Daelyte site were sent to Safety-Kleen (ENCOTEC) on August 13, 1998, for analyses under analytical TDD S05-9807-803. The samples were analyzed in accordance with the U.S. EPA Solid Waste (SW-846) Method 9040 for the determination of pH; Method 1010 for the determination of flash point (ignitability); Methods 6010 and 7470 for the determination of total metals, plus copper and zinc; Methods 1311, 6010, and 7470, for the determination of TCLP metals, plus copper and zinc; Method 8260 for the determination of total VOCs; Method 8270 for determination of total SVOCs; Method 7.3.4.1 for the determination of reactive cyanide; Method 7.3.3.2 for the determination of reactive sulfide; Method 8082 for the determination of PCBs; Method 9020 for the determination of TOX; and Method 8015 for the determination of TPHs. Tables 4-1 and 4-2 summarize the analytical results; and data validation memoranda and the data are presented in Appendix B.

Analytical results of small container sample DLC-7 had a flash point of 113 °F. Analytical results of tank sample DLT-1 contained 180,000 milligrams per kilogram (mg/kg) TPHs, 300,000 micrograms per liter (µg/L) ethylbenzene, 410,000 µg/L toluene, 1,600,000 µg/L total xylenes, 530,000 µg/L acenaphthene, 300,000 µg/L anthracene, 290,000 µg/L dibenzofuran, 640,000 µg/L fluorene, 1,000,000 µg/L N-nitrosodiphenylamine, 1,900,000 µg/L naphthalene, 1,500,000 µg/L phenanthrene, and 150,000 µg/L pyrene. Samples DLD-1, DLC-2, DLC-4, and DLC-5 had analytical results indicating pHs of less than 1 s.u. Analytical results of tank sample DLT-2 contained 18,000 µg/L benzene, 2,300 µg/L ethylbenzene, 35,000 µg/L toluene, 22,000 µg/L total xylenes, 3,600 µg/L bis (2-ethylhexyl) phthalate, and 8,300 µg/L naphthalene. Small container sample DLC-11 analytical results contained 9.6 milligrams per liter (mg/L) TCLP lead and 1,000 mg/L TCLP zinc. Analytical results of sample DLC-9 contained 710 mg/L TCLP zinc.

Table 4-1

FLASH POINT, pH, REACTIVE CYANIDE, REACTIVE SULFIDE, TOTAL PCBS, TPH, TOX, AND METALS ANALYTICAL RESULTS
DAELYTE SERVICE COMPANY
DETROIT, WAYNE COUNTY, MICHIGAN
AUGUST 12, 1998

Parameter	Regulatory Limits	Sample Designation												
		DLT-1	DLT-2	DLD-1	DLC-2	DLC-3	DLC-4	DLC-5	DLC-6	DLC-7	DLC-8	DLC-9	DLC-10	DLC-11
Flash point	<140°F	>200°F	>200°F	NA	NA	NA	NA	NA	171°F	113°F	164°F	NA	NA	NA
pH (standard units)	<2 or >12.5	5.6	7.1	<1	<1	9.6	<1	<1	4.8	5.2	4.3	NA	NA	NA
Reactive cyanide (mg/kg)	250	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA	NA
Reactive sulfide (mg/kg)	500	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA	NA
Total PCBs (µg/kg)	*	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH (mg/kg)	*	180,000	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOX (%)	*	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total arsenic (mg/kg)	*	ND	0.0024	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total barium (mg/kg)	*	ND	0.037	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total lead (mg/kg)	*	ND	0.68	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total zinc (mg/kg)	*	ND	0.093	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TCLP cadmium (mg/L)	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.16
TCLP lead (mg/L)	5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.16	ND	9.6
TCLP mercury (mg/L)	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.015	0.039
TCLP zinc (mg/L)	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	710	ND	1,000

Key :
* = No regulatory limit has been currently set.
µg/kg = Micrograms per kilogram.
< = Less than.
> = Greater than.
mg/L = Milligrams per liter.
NA = The sample was not analyzed for this parameter.
ND = Not detected.
mg/kg = Milligrams per kilogram.

Source : Safety-Kleen (ENCOTEC) Laboratory, Inc., Ann Arbor, Michigan, under analytical TDD SO5-9807-803.

Table 4-2

VOLATILE ORGANIC COMPOUNDS AND SEMIVOLATILE ORGANIC COMPOUNDS
ANALYTICAL RESULTS
DAELYTE SERVICE COMPANY
DETROIT, WAYNE COUNTY, MICHIGAN
AUGUST 12, 1998
(units = µg/L)

Parameter	Sample Designation	
	DLT-1	DLT-2
Volatile organic compounds		
Benzene	ND	18,000
Ethylbenzene	300,000	2,300
Toluene	410,000	35,000
total xylenes	1,600,000	22,000
Semivolatile organic compounds		
Acenaphthene	530,000	ND
Anthracene	300,000	ND
Dibenzofuran	290,000	ND
bis (2-Ethylhexyl) phthalate	ND	3,600
Fluorene	640,000	ND
N-Nitrosodiphenylamine	1,000,000	ND
Naphthalene	1,900,000	8,300
Phenanthrene	1,500,000	ND
Pyrene	150,000	ND

Key :

ND = Not detected.
µg/L = Micrograms per liter.

Source : Safety-Kleen (ENCOTEC) laboratory, Inc., Ann Arbor, Michigan, under analytical TDD SO5-9807-803.

5. Potential Threats

The site assessment at the Daelyte site was conducted to evaluate the threat to public health and the environment posed by the potential for imminent release of hazardous substances from the site. Conditions at the Daelyte site present an imminent and substantial endangerment to public health, welfare, or the environment based upon factors set forth in the NCP, 40 CFR Section 300.415 (b)(2). These factors include:

(i) **Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.** Small containers labeled, "Phosphoric Acid," were observed on the site. Analytical results indicated some containers to have a pH less than 1 s.u. Analytical results indicated sample DLC-7 had a flash point less than 113°F. A rusty deteriorated drum, DLD-1, containing a corrosive liquid, was observed in the western room of the storage building. One third of the roof of the western room was absent, and the majority of the rest of the roof was deteriorated and collapsing. The drum and other containers are exposed to the elements, thus presenting the threat of a release, as well as a contact hazard for humans or animals entering the facility. Tank liquids contain several VOCs and SVOCs which present inhalation hazards to people and animals if the tanks are not maintained and properly sealed. Sample results of some small containers indicated TCLP lead and TCLP zinc concentrations greater than toxicity regulatory limits. The facility is frequently accessed by the owner and hired cleaners. The sidewalk southwest of the site is a frequently used pedestrian route. No security is present, and several animals reside in the building.

(iii) **Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release.** Containers of corrosive materials were documented in the building. A rusty deteriorated drum containing liquid with a pH of less than 1 s.u. was observed in the western room of the storage building on site. This drum, which is deteriorated, may collapse and release its contents. If tanks are not properly maintained, the contents may be released into subsurface soils and could subsequently contaminate groundwater and subsurface soils in nearby residential areas.

(v) **Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.** The storage building is not heated. Drums and small containers are exposed to seasonal temperature fluctuations and precipitation while stored in the western room. The western room also has a collapsed section of roof. One steel drum, containing a corrosive liquid, is rusted and deteriorated. Seasonal temperature fluctuations cause the material in the containers to freeze and thaw. Freezing and thawing causes the contents to expand and contract, and the containers to bulge and potentially rupture.

(vi) **Threat of fire or explosion.** Analytical results indicated at least one small container held flammable materials, and several other containers held corrosive materials. Some drums and containers are not labeled, and their contents have not been identified. Vandals or hired cleaners might mix flammables and corrosives unknowingly, creating a violent reaction. The reaction may cause a fire, explosion, or the release of toxic vapors.

6. Summary

Observations documented during the Daelyte site assessment indicate that the conditions constitute an imminent and substantial endangerment to public health and the environment. This conclusion is based upon observations by U.S. EPA and START, as evaluated against the criteria set forth in the NCP.

Based upon analytical results from samples collected, observations, and information provided to START, the materials in several small containers, tanks, and drums contain either RCRA hazardous substances or are RCRA hazardous wastes with the characteristics of corrosivity, ignitability, or toxicity. Several businesses are located southeast and northwest, along Mount Elliott Avenue. The sidewalk southwest of the site is a frequently used pedestrian route. There is no security at the site, and the site is frequently visited by the owner and hired cleaners. The collapsed roof over the western room allows access and presents a physical hazard for potential trespassers and vandals.

Based upon observations during the site assessment, the majority of small containers on site contain paints and solvents, and a drum and several small containers contain strong acids. The USTs appear to contain solvents. Drums and small containers are located in areas without any secondary containment. Based on the threat posed by materials on site, the following actions are recommended to address the immediate threats on site: removal of material from drums and tanks; and removal of drums, tanks, and containers.

Appendix A

Photodocumentation

te Service Company
1 (R1F1)
South
Minolta
her: Michael Dieckhaus

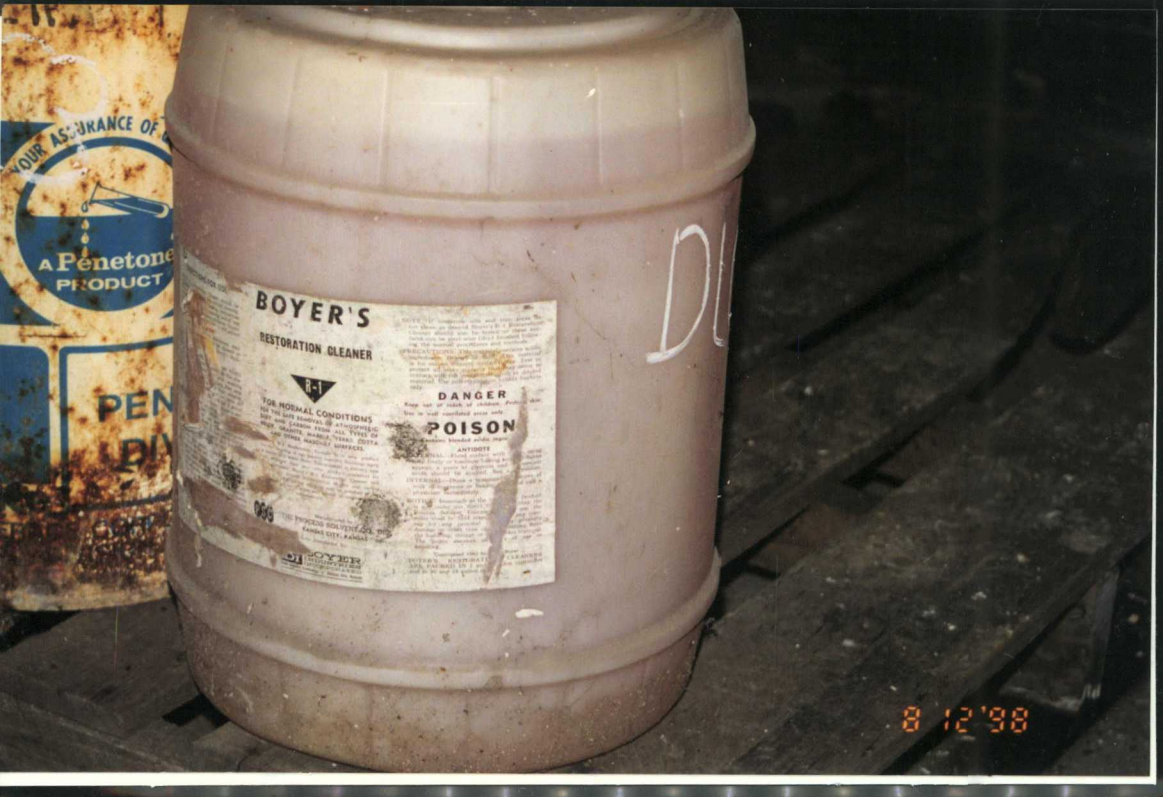
Date: August 12, 1998
Subject: Sample DLC-5 collected from 1-gallon container.

te Service Company
2 (R1F2)
South
Minolta
her: Michael Dieckhaus

Date: August 12, 1998
Subject: Container sample DLC-5 was collected from container with "Contains phosphoric acid" label.

Site: Daelyte Service Company
Photo No: 3 (R1F3)
Direction: North
Camera: Minolta
Photographer: Mike Dieckhaus

Date: August 12, 1998
Subject: Pallet with corrosive liquid containers near a fl



Site: Daelyte Service Company
Photo No: 4 (R1F4)
Direction: Northeast
Camera: Minolta
Photographer: Michael Dieckhaus

Date: August 12, 1998
Subject: Label information on the container from which DLC-2 was collected.

Site: Daelyte Service Company
Photo No: 5 (R1F5)
Direction: Northeast
Camera: Minolta
Photographer: Michael Dieckhaus

Date: August 12, 1998
Subject: Label information on the container from which sample DLC-3 was collected.

Site: Daelyte Service Company
Photo No: 6 (R1F6)
Direction: Northwest
Camera: Minolta
Photographer: Michael Dieckhaus

Date: August 12, 1998
Subject: Drum and glass container from which samples DLD-1 and DLC-4 were collected.

Site: Daelyte Service Company
Photo No: 7 (R1F7)
Direction: Northwest
Camera: Minolta
Photographer: Michael Dieckhaus

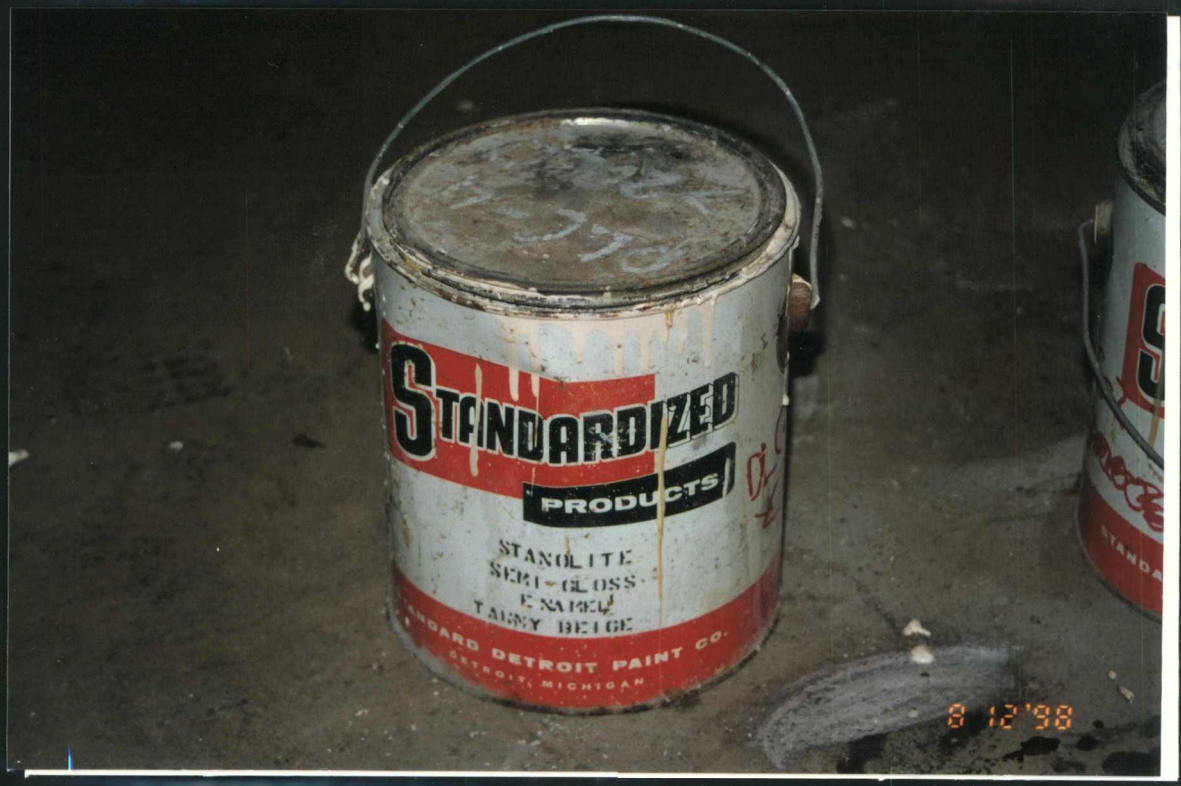
Date: August 12, 1998
Subject: Sample DLC-4 collected from 1-gallon container labeled "Phosphoric Acid 85%."

Site: Daelyte Service Company
Photo No: 8 (R1F8)
Direction: West
Camera: Minolta
Photographer: Michael Dieckhaus

Date: August 12, 1998
Subject: Label on drum from which sample DLD-1 was collected.

Site: Daelyte Service Company
Photo No: 9 (R1F9)
Direction: North
Camera: Minolta
Photographer: Michael Dieckhaus

Date: August 12, 1998
Subject: Rusty deteriorated steel drum with polyethylene liner from which sample DLD-1 was collected.

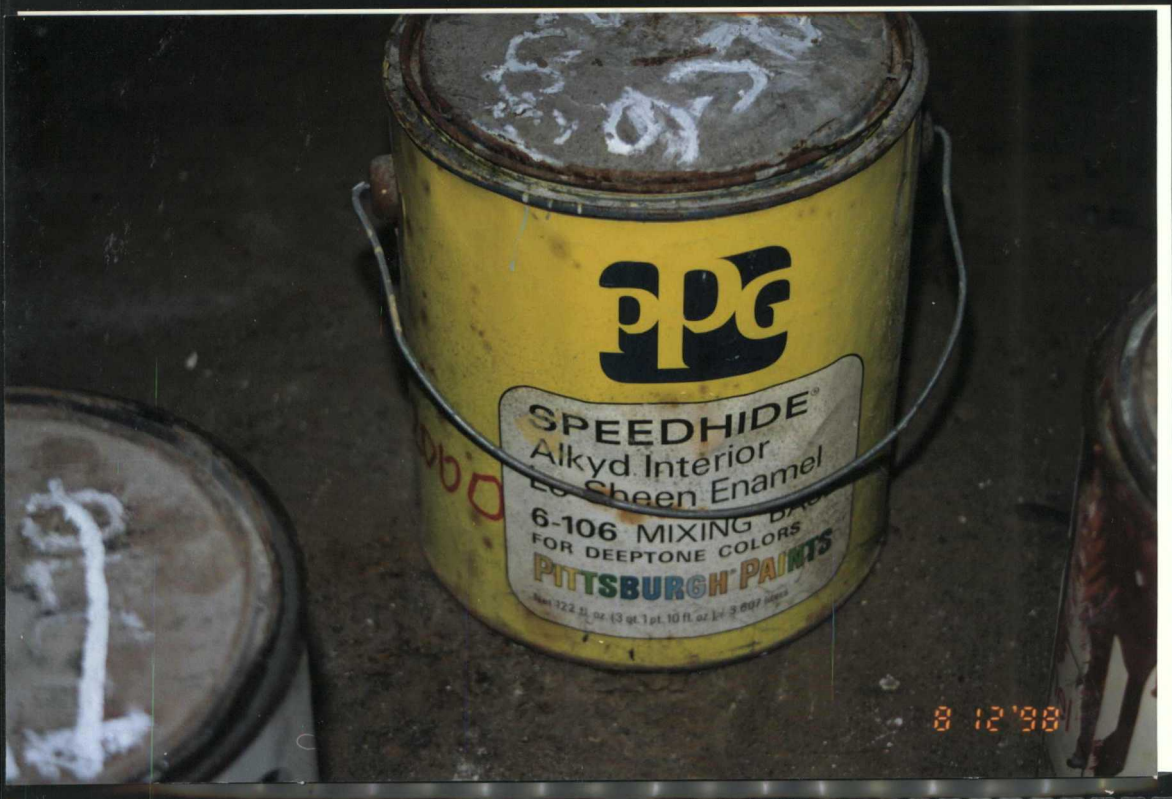


Site: Daelyte Service Company
Photo No: 10 (R1F10)
Direction: East
Camera: Minolta
Photographer: Michael Dieckhaus

Date: August 12, 1998
Subject: Label on 1-gallon paint container from which DLC-9 sample was collected.

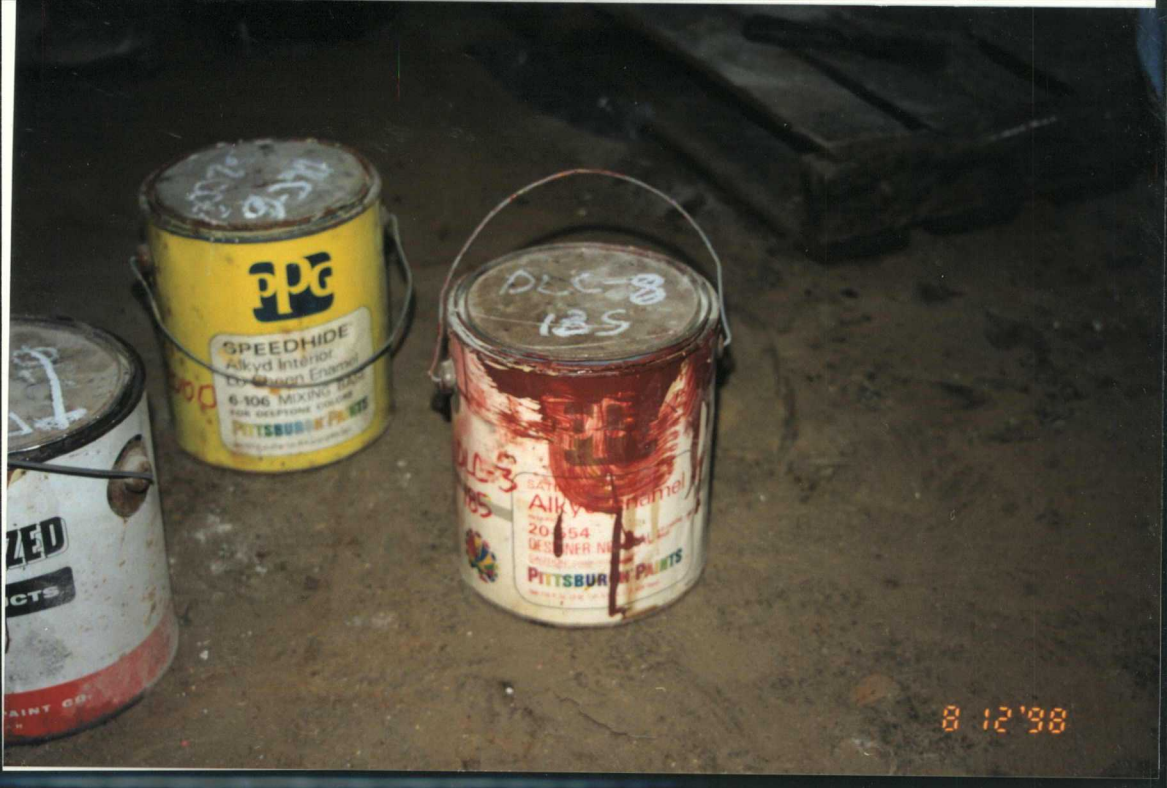
Site: Daelyte Service Company
Photo No:11 (R1F11)
Direction: East
Camera: Minolta
Photographer: Michael Dieckhaus

Date: August 12, 1998
Subject: Label on 1-gallon paint container from which DLC-7 sample was collected.



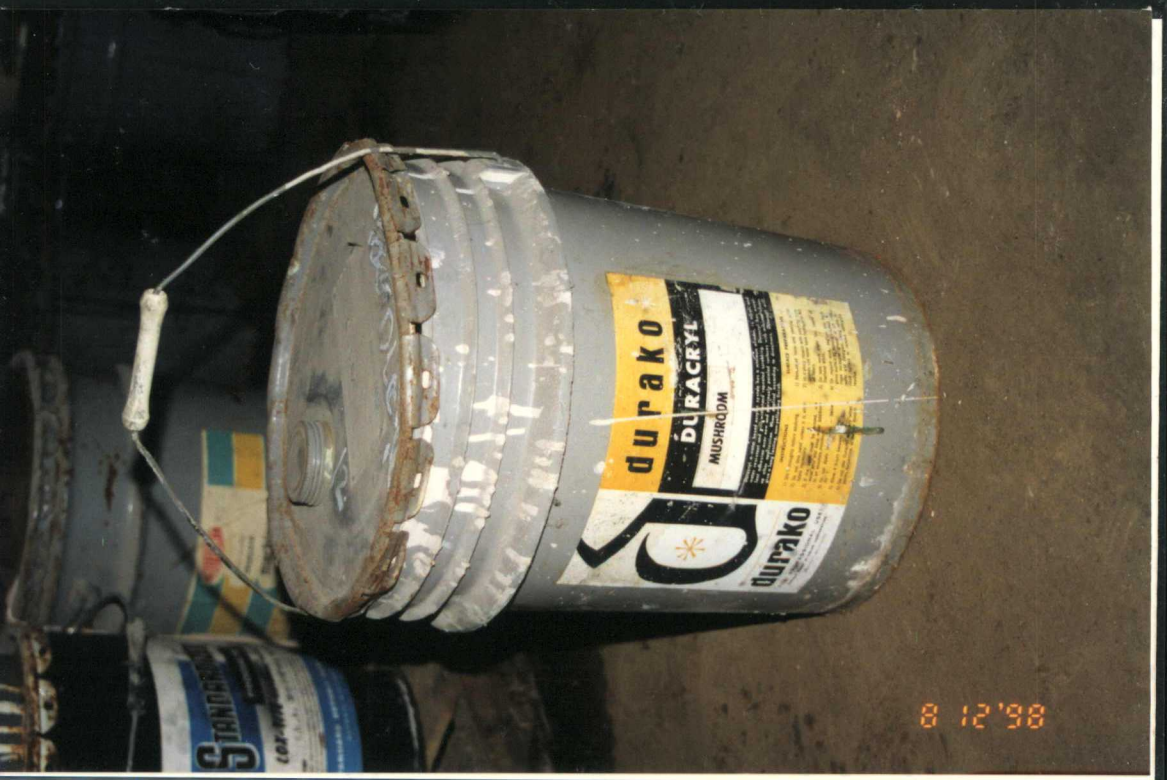
Site: Daelyte Service Company
Photo No: 12 (R1F12)
Direction: East
Camera: Minolta
Photographer: Mike Dieckhaus

Date: August 12, 1998
Subject: Label on 1-gallon paint container from which DLC-6 sample was collected.



Service Company
(R1F13)
st
olta
: Michael Dieckhaus

Date: August 12, 1998
Subject: Label on 1-gallon paint container from which DLC-8 sample was collected.



Service Company
(R1F14)
A
olta
r: Michael Dieckhaus

Date: August 12, 1998
Subject: Label on 5-gallon paint container from which DLC-10 sample was collected.

Site: Daelyte Service Company
Photo No: 15 (R1F15)
Direction: N/A
Camera: Minolta
Photographer: Michael Dieckhaus

Date: August 12, 1998
Subject: Label on 5-gallon paint container from which sample was collected.

Site: Daelyte Service Company
Photo No: 16 (R1F16)
Direction: Northwest
Camera: Minolta
Photographer: Michael Dieckhaus

Date: August 12, 1998
Subject: Western opening of UST from which sample collected.

Appendix B

Data Validation Memoranda

ecology and environment, inc.
12251 UNIVERSAL, TAYLOR, MICHIGAN 48180, TEL. (313) 946-0900
International Specialists in the Environment

MEMORANDUM

DATE: September 8, 1998

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Nancy Smith, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Miscellaneous Analytical Data Quality Assurance Review for Total Chloride, Daelyte Service Company, Detroit, Wayne County, Michigan.

REFERENCE: Project TDD: S05-9807-004 Analytical TDD: S05-9807-803
Project PAN: 8U0401SIXX Analytical PAN: 8UAC01TAXX

The data quality assurance (QA) review of two liquid/waste samples, collected from the Daelyte Service Company site, is complete. The samples were collected on August 12, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to Safety-Kleen (ENCOTEC), Ann Arbor, Michigan, for analyses of percent halogens (as chloride). The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Method 9253 for total chloride analyses.

Sample Identification

START Identification No.	Laboratory Identification No.
DLT-1	200091983
DLT-2	200091984

Data Qualifications

I. Holding Time: Acceptable

The samples were collected on August 12, 1998 and received by the laboratory on August 13, 1998. The samples were analyzed for percent halogens on August 20, 1998. All analyses were completed within the 28 day holding time as specified by the United States Environmental Protection Agency. All samples were collected and stored in closed glass containers. In this

reviewer's professional judgement, sample integrity was not compromised. Verbal results were received and provided to the START Project Manager on August 21, 1998. Hardcopy analytical results and raw data were received on August 28, 1998.

II. Calibration: Acceptable

A calibration standard was analyzed along with the samples, and the percent recovery was in the acceptable quality control window of (70-130) percent.

III. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Generic Data Validation Procedures, Section 9.0, Non-Metal Inorganic Parameters; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the percent halogens results are acceptable for use as reported.

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734 / 761-1389

WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIRONMENTAL, INC.
Project Number: 71060
Report Date: August 27, 1998

Sample I.D.: DLT -1
Sample Date: 08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091983

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Percent Halogens (as Cl^-)	WBTH2004	08/20/98	9253	%	U	0.05	NA

[1] Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
[2] Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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734 / 761-1389

WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIRONMENTAL, INC.
Project Number: 71060
Report Date: August 27, 1998

Sample I.D.: DLT -2
Sample Date: 08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091984

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Percent Halogens (as Cl^-)	WBTH2004	08/20/98	9253	%	U	0.05	NA

[1] Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
[2] Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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International Specialists in the Environment

MEMORANDUM

DATE: September 2, 1998

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Nancy Smith, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Total Volatile Organic Compounds (VOCs) Data Quality Assurance Review, Daelyte Service Company, Detroit, Wayne County, Michigan

REFERENCE: Project TDD: S05-9807-004 Analytical TDD: S05-9807-803
Project PAN: 8U0401SIXX Analytical TDD: 8UAC01TAXX

The data quality assurance (QA) review of two waste-liquid samples, collected from the Daelyte Service Company site, is complete. Samples were collected on August 12, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Safety-Kleen (ENCOTEC), Ann Arbor, Michigan, for analyses of total VOCs. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 (SW-846) Method 8260 for the determination of total VOC concentrations.

Sample Identification

START Identification No.	Laboratory Identification No.
DLT-1	20091983
DLT-2	20091984

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on August 12, 1998, and received by the laboratory on August 13, 1998. Samples were analyzed on August 21, 1998, for total VOCs. All analyses were completed within the 14 days holding time as specified in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01. Non-validated data was provided to the START Project Manager on August 21, 1998. Hardcopy results and raw data were received on August 28, 1998.

II. Gas Chromatography/Mass Spectrometry (GC/MS) Tuning: Acceptable

Bromofluorobenzene (BFB) performance standards were analyzed within the 12-hour time limit on the same instrument used to analyze the samples for each day of analyses, and ion abundance criteria were met.

III. Calibration:

A. Initial Calibration: Acceptable

All response factors (RFs) were greater than zero, and relative response factors (RRFs) for all parameters were at least 0.05 for the initial calibration. The percent relative standard deviations (%RSDs) were within the acceptable range of less than or equal to 30% for all VOCs, except for ethylene oxide, acetone, and pyridine. All sample results for ethylene oxide, acetone, and pyridine were below the instrument detection limits; thus, no action was necessary.

B. Continuing Calibration: Acceptable

All percent differences (%Ds) between initial calibration and continuing calibration were within the recommended limits of less than or equal to 25%, for all of the compounds quantified in the samples.

IV. Internal Standards: Acceptable

All internal standard (IS) areas were within the specified limits (-50 to +100%) of the associated calibration standards. IS retention times (RTs) were within the plus-or-minus 30-second control limit.

V. Method Blanks: Acceptable

Method blanks were analyzed on the same instrument at the proper frequency. All target compounds were below the instrument detection limit.

VI. Compound Identification: Acceptable

Relative retention times (RRTs) of reported compounds were within 0.06 RRT units of the standard's RRT.

VII. Compound Quantitation and Reported Detection Limits: Acceptable

All reported values have been correctly adjusted to reflect all concentration calculations.

VIII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 5.0, Volatiles by GC/MS Analysis; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the data are acceptable for use as reported.

ANALYTICAL REPORT

CLIENT: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLT-1

Date Sampled:	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date Extracted:	N/A	**ENCOTEC QC Set ID:**	VOGH2101M
Analysis Date:	08/21/98	**ENCOTEC Submission ID:**	100013219
Second Analysis Date:	N/A	**ENCOTEC Sample ID:**	200091983
Method Reference:	8260	**Percent Total Solids:**	N/A
Matrix:	LIQUID, NON-AQUEOUS	**Calculation Basis:**	Wet Weight

	VOLATILE ORGANICS MDEQ Part 201 List	CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Acetone	67-64-1	200000	20000	U	
2	Acetonitrile	75-05-8	1000000	20000	U	
3	Benzene	71-43-2	100000	20000	U	
4	Bromodichloromethane	75-27-4	100000	20000	U	
5	Bromoform	75-25-2	100000	20000	U	
6	Bromomethane	74-83-9	100000	20000	U	
7	2-Butanone (MEK)	78-93-3	200000	20000	U	
8	Carbon disulfide	75-15-0	100000	20000	U	
9	Carbon tetrachloride	56-23-5	100000	20000	U	
10	Chlorobenzene	108-90-7	100000	20000	U	
11	Chloroethane	75-00-3	100000	20000	U	
12	Chloroform	67-66-3	100000	20000	U	
13	Chloromethane	74-87-3	100000	20000	U	
14	Dibromochloromethane	124-48-1	100000	20000	U	
15	1,2-Dichlorobenzene	95-50-1	100000	20000	U	
16	1,4-Dichlorobenzene	106-46-7	100000	20000	U	
17	1,3-Dichlorobenzene	541-73-1	100000	20000	U	
18	1,2-Dichloroethane	107-06-2	100000	20000	U	
19	1,1-Dichloroethane	75-34-3	100000	20000	U	
20	trans-1,2-Dichloroethene	156-60-5	100000	20000	U	
21	cis-1,2-Dichloroethene	156-59-2	100000	20000	U	
22	1,1-Dichloroethene	75-35-4	100000	20000	U	
23	1,2-Dichloropropane	78-87-5	100000	20000	U	
24	trans-1,3-Dichloropropene	10061-02-6	100000	20000	U	
25	cis-1,3-Dichloropropene	10061-01-5	100000	20000	U	
26	Ethylbenzene	100-41-4	100000	20000	300000	
27	Ethylene dibromide	106-93-4	100000	20000	U	
28	Ethylene oxide	75-21-8	4000000	20000	U	
29	2-Hexanone	591-78-6	200000	20000	U	
30	Methyl(tert)butyl ether	1634-04-4	1000000	20000	U	
31	4-Methyl-2-pentanone (MIBK)	108-10-1	200000	20000	U	
32	Methylene chloride	75-09-2	100000	20000	U	
33	Styrene	100-42-5	100000	20000	U	
34	1,1,2,2-Tetrachloroethane	79-34-5	100000	20000	U	
35	Tetrachloroethene	127-18-4	100000	20000	U	

Safety-Kleen (ENCOTEC), Inc.
3985 Research Park Drive ■ Ann Arbor, MI 48108
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Report Date: 08/21/98

ANALYTICAL REPORT

CLIENT: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLT-1

Date Sampled:	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date Extracted:	N/A	**ENCOTEC QC Set ID:**	VOGH2101M
Analysis Date:	08/21/98	**ENCOTEC Submission ID:**	100013219
Second Analysis Date:	N/A	**ENCOTEC Sample ID:**	200091983
Method Reference:	8260	**Percent Total Solids:**	N/A
Matrix:	LIQUID, NON-AQUEOUS	**Calculation Basis:**	Wet Weight

	VOLATILE ORGANICS MDEQ Part 201 List	CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
36	Toluene	108-88-3	100000	20000	410000	
37	1,1,2-Trichloroethane	79-00-5	100000	20000	U	
38	1,1,1-Trichloroethane	71-55-6	100000	20000	U	
39	Trichloroethene	79-01-6	100000	20000	U	
40	Vinyl chloride	75-01-4	100000	20000	U	
41	total Xylenes	1330-20-7	300000	20000	1600000	

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Report Date: 08/21/98

ANALYTICAL REPORT

CLIENT: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLT-2

Date Sampled:	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date Extracted:	N/A	**ENCOTEC QC Set ID:**	VOGH2101W
Analysis Date:	08/21/98	**ENCOTEC Submission ID:**	100013219
Second Analysis Date:	N/A	**ENCOTEC Sample ID:**	200091984
Method Reference:	8260	**Percent Total Solids:**	N/A
Matrix:	LIQUID, AQUEOUS	**Calculation Basis:**	N/A

	VOLATILE ORGANICS MDEQ Part 201 List	CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Acetone	67-64-1	20000	2000	U	
2	Acetonitrile	75-05-8	100000	2000	U	
3	Benzene	71-43-2	10000	2000	18000	
4	Bromodichloromethane	75-27-4	2000	2000	U	
5	Bromoform	75-25-2	2000	2000	U	
6	Bromomethane	74-83-9	2000	2000	U	
7	2-Butanone (MEK)	78-93-3	20000	2000	U	
8	Carbon disulfide	75-15-0	10000	2000	U	
9	Carbon tetrachloride	56-23-5	2000	2000	U	
10	Chlorobenzene	108-90-7	2000	2000	U	
11	Chloroethane	75-00-3	2000	2000	U	
12	Chloroform	67-66-3	2000	2000	U	
13	Chloromethane	74-87-3	2000	2000	U	
14	Dibromochloromethane	124-48-1	2000	2000	U	
15	1,4-Dichlorobenzene	106-46-7	2000	2000	U	
16	1,2-Dichlorobenzene	95-50-1	2000	2000	U	
17	1,3-Dichlorobenzene	541-73-1	2000	2000	U	
18	1,2-Dichloroethane	107-06-2	2000	2000	3900	
19	1,1-Dichloroethane	75-34-3	2000	2000	U	
20	trans-1,2-Dichloroethene	156-60-5	2000	2000	U	
21	cis-1,2-Dichloroethene	156-59-2	2000	2000	U	
22	1,1-Dichloroethene	75-35-4	2000	2000	U	
23	1,2-Dichloropropane	78-87-5	2000	2000	U	
24	trans-1,3-Dichloropropene	10061-02-6	2000	2000	U	
25	cis-1,3-Dichloropropene	10061-01-5	2000	2000	U	
26	Ethylbenzene	100-41-4	2000	2000	2300	
27	Ethylene dibromide	106-93-4	2000	2000	U	
28	Ethylene oxide	75-21-8	400000	2000	U	
29	2-Hexanone	591-78-6	20000	2000	U	
30	Methyl(tert)butyl ether	1634-04-4	100000	2000	U	
31	4-Methyl-2-pentanone (MIBK)	108-10-1	20000	2000	U	
32	Methylene chloride	75-09-2	10000	2000	U	
33	Styrene	100-42-5	2000	2000	U	
34	1,1,2,2-Tetrachloroethane	79-34-5	2000	2000	U	
35	Tetrachloroethene	127-18-4	2000	2000	U	

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Report Date: 08/21/98

ANALYTICAL REPORT

CLIENT: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLT-2

Date Sampled:	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date Extracted:	N/A	**ENCOTEC QC Set ID:**	VOGH2101W
Analysis Date:	08/21/98	**ENCOTEC Submission ID:**	100013219
Second Analysis Date:	N/A	**ENCOTEC Sample ID:**	200091984
Method Reference:	8260	**Percent Total Solids:**	N/A
Matrix:	LIQUID, AQUEOUS	**Calculation Basis:**	N/A

	VOLATILE ORGANICS MDEQ Part 201 List	CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
36	Toluene	108-88-3	2000	2000	35000	
37	1,1,2-Trichloroethane	79-00-5	2000	2000	U	
38	1,1,1-Trichloroethane	71-55-6	2000	2000	U	
39	Trichloroethene	79-01-6	2000	2000	U	
40	Vinyl chloride	75-01-4	2000	2000	U	
41	total Xylenes	1330-20-7	6000	2000	22000	

Safety-Kleen (ENCOTEC), Inc.
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Report Date: 08/21/98

ecology and environment, inc.
12251 UNIVERSAL, TAYLOR, MICHIGAN 48180, TEL. (313) 946-0900
International Specialists in the Environment

MEMORANDUM

DATE: September 2, 1998

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Nancy Smith, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Total Semivolatile Organic Compound (SVOC) Data Quality Assurance Review, Daelyte Service Company, Detroit, Wayne County, Michigan

REFERENCE: Project TDD: S05-9807-004 Analytical TDD: S05-9807-803
Project PAN: 8U0401SIXX Analytical PAN: 8UAC01TAXX

The data quality assurance (QA) review of two waste-liquid samples collected from the Daelyte Service Company site, is complete. Samples were collected on August 12, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Safety-Kleen (ENCOTEC), Ann Arbor, Michigan, for analyses of total SVOCs. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Method 8270 for the determination of total SVOC concentrations.

Sample Identification

START Identification No.	Laboratory Identification No.
DLT-1	200091983
DLT-2	200091984

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on August 12, 1998, and received by the laboratory on August 13, 1998. Samples were extracted on August 15 and 18, 1998. Samples were analyzed on August 21, 1998, for total SVOCs. All extractions were completed within 7 days from collection, and all analyses were completed within 40 days from extraction to analysis as specified for holding times in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01. Verbal results were received and provided to the START Project Manager on August 21, 1998. Hardcopy analytical results and raw data were received on August 28, 1998.

II. Gas Chromatography/Mass Spectrometry (GC/MS) Tuning: Acceptable

Decafluorotriphenylphosphine (DFTPP) standards were analyzed within the required 12-hour time limit for all sample analyses on the same instrument used to analyze the samples, and the ion abundance criteria were met for each DFTPP standard.

III. Calibration:

A. Initial Calibration: Acceptable

All response factors (RFs) were greater than zero, and relative response factors (RRFs) for all parameters were at least 0.05 for the initial calibration. The percent relative standard deviations (%RSDs) were within the acceptable range of less than or equal to 30% for all total SVOCs.

B. Continuing Calibration: Acceptable

All percent differences (%Ds) between the initial calibration and continuing calibration were within the recommended limits of less than or equal to 25% for all total SVOCs.

IV. Internal Standards: Acceptable

All internal standard (IS) areas were within the specified limits (-50 to +100%) of the associated calibration standards. IS retention times (RTs) were within the plus-or-minus 30-second control limit.

V. Method Blanks: Acceptable

A method blank was analyzed on the same instrument at the proper frequency. All target compounds were below the instrument detection limits.

VI. Compound Identification: Acceptable

All relative retention times (RRTs) of reported compounds were within 0.06 RRT units of the standard RRT, and all ions present in the standard mass spectrum were also present in the sample mass spectrum.

VII. Compound Quantitation and Reported Detection Limits: Acceptable

All reported values have been correctly adjusted to reflect all dilutions.

VIII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 4.0, BNAs by GC/MS Analysis; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the data are acceptable for use as reported.

ANALYTICAL REPORT

CLIENT: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLT-1

Date Sampled:	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date Extracted:	08/18/98	**ENCOTEC QC Set ID:**	BNAH1811S
Analysis Date:	08/21/98	**ENCOTEC Submission ID:**	100013219
Second Analysis Date:	N/A	**ENCOTEC Sample ID:**	200091983
Method Reference:	8270	**Percent Total Solids:**	N/A
Matrix:	LIQUID, NON-AQUEOUS	**Calculation Basis:**	Wet Weight

	SEMIVOLATILE ORGANICS MDEQ Part 201 List	CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Acenaphthene	83-32-9	100000	20	530000	
2	Acenaphthylene	208-96-8	100000	20	U	
3	Aniline	62-53-3	400000	20	U	
4	Anthracene	120-12-7	100000	20	300000	
5	Benzidine	92-87-5	1000000	20	U	
6	Benzo(a)anthracene	56-55-3	100000	20	U	
7	Benzo(a)pyrene	50-32-8	100000	20	U	
8	Benzo(b)fluoranthene	205-99-2	100000	20	U	
9	Benzo(g,h,i)perylene	191-24-2	100000	20	U	
10	Benzo(k)fluoranthene	207-08-9	100000	20	U	
11	4-Bromophenyl phenyl ether	101-55-3	100000	20	U	
12	Butyl benzyl phthalate	85-68-7	100000	20	U	
13	4-Chloro-3-methylphenol	59-50-7	100000	20	U	
14	4-Chloroaniline	106-47-8	400000	20	U	
15	bis(2-Chloroethoxy)methane	111-91-1	100000	20	U	
16	bis(2-Chloroethyl) ether	111-44-4	100000	20	U	
17	bis(2-Chloroisopropyl) ether	108-60-1	100000	20	U	
18	2-Chloronaphthalene	91-58-7	100000	20	U	
19	2-Chlorophenol	95-57-8	100000	20	U	
20	4-Chlorophenyl phenyl ether	7005-72-3	100000	20	U	
21	Chrysene	218-01-9	100000	20	U	
22	Di-n-butyl phthalate	84-74-2	100000	20	U	
23	Di-n-octyl phthalate	117-84-0	100000	20	U	
24	Dibenz(a,h)anthracene	53-70-3	100000	20	U	
25	Dibenzofuran	132-64-9	100000	20	290000	
26	3,3'-Dichlorobenzidine	91-94-1	400000	20	U	
27	2,4-Dichlorophenol	120-83-2	100000	20	U	
28	Diethyl phthalate	84-66-2	100000	20	U	
29	Dimethyl phthalate	131-11-3	100000	20	U	
30	2,4-Dimethylphenol	105-67-9	100000	20	U	
31	4,6-Dinitro-2-methylphenol	534-52-1	400000	20	U	
32	2,4-Dinitrophenol	51-28-5	400000	20	U	
33	2,6-Dinitrotoluene	606-20-2	100000	20	U	
34	2,4-Dinitrotoluene	121-14-2	100000	20	U	
35	bis(2-Ethylhexyl) phthalate	117-81-7	100000	20	U	

Safety-Kleen (ENCOTEC), Inc.
3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (734) 761-1389 - Telefax: (734) 761-1034

Report Date: 08/24/98

ANALYTICAL REPORT

CLIENT: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLT-1

Date Sampled:	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date Extracted:	08/18/98	**ENCOTEC QC Set ID:**	BNAH1811S
Analysis Date:	08/21/98	**ENCOTEC Submission ID:**	100013219
Second Analysis Date:	N/A	**ENCOTEC Sample ID:**	200091983
Method Reference:	8270	**Percent Total Solids:**	N/A
Matrix:	LIQUID, NON-AQUEOUS	**Calculation Basis:**	Wet Weight

	SEMIVOLATILE ORGANICS MDEQ Part 201 List	CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
36	Fluoranthene	206-44-0	100000	20	U	
37	Fluorene	86-73-7	100000	20	640000	
38	Hexachlorobenzene	118-74-1	100000	20	U	
39	Hexachlorobutadiene	87-68-3	100000	20	U	
40	Hexachlorocyclopentadiene	77-47-4	100000	20	U	
41	Hexachloroethane	67-72-1	100000	20	U	
42	Indeno(1,2,3-c,d)pyrene	193-39-5	100000	20	U	
43	Isophorone	78-59-1	100000	20	U	
44	N-Nitroso-di-n-propylamine	621-64-7	100000	20	U	
45	N-Nitrosodiphenylamine	86-30-6	100000	20	1000000	
46	Naphthalene	91-20-3	100000	20	1900000	
47	4-Nitroaniline	100-01-6	400000	20	U	
48	3-Nitroaniline	99-09-2	400000	20	U	
49	2-Nitroaniline	88-74-4	400000	20	U	
50	Nitrobenzene	98-95-3	100000	20	U	
51	4-Nitrophenol	100-02-7	400000	20	U	
52	2-Nitrophenol	88-75-5	100000	20	U	
53	Octachlorocyclopentene	706-78-5	100000	20	U	
54	Pentachlorophenol	87-86-5	400000	20	U	
55	Phenanthrene	85-01-8	100000	20	1500000	
56	Phenol	108-95-2	100000	20	U	
57	Pyrene	129-00-0	100000	20	150000	
58	1,2,4-Trichlorobenzene	120-82-1	100000	20	U	
59	2,4,6-Trichlorophenol	88-06-2	100000	20	U	

Safety-Kleen (ENCOTEC), Inc.
3985 Research Park Drive ■ Ann Arbor, MI 48108
Telephone: (734) 761-1389 - Telefax: (734) 761-1034

Report Date: 08/24/98

ANALYTICAL REPORT

CLIENT: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLT-2

Date Sampled:	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date Extracted:	08/15/98	**ENCOTEC QC Set ID:**	BNAH1905W
Analysis Date:	08/21/98	**ENCOTEC Submission ID:**	100013219
Second Analysis Date:	N/A	**ENCOTEC Sample ID:**	200091984
Method Reference:	8270	**Percent Total Solids:**	N/A
Matrix:	LIQUID, AQUEOUS	**Calculation Basis:**	N/A

	SEMIVOLATILE ORGANICS MDEQ Part 201 List	CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Acenaphthene	83-32-9	500	10	U	
2	Acenaphthylene	208-96-8	500	10	U	
3	Aniline	62-53-3	2000	10	U	
4	Anthracene	120-12-7	500	10	U	
5	Benzidine	92-87-5	5000	10	U	
6	Benzo(a)anthracene	56-55-3	500	10	U	
7	Benzo(a)pyrene	50-32-8	500	10	U	
8	Benzo(b)fluoranthene	205-99-2	500	10	U	
9	Benzo(g,h,i)perylene	191-24-2	500	10	U	
10	Benzo(k)fluoranthene	207-08-9	500	10	U	
11	4-Bromophenyl phenyl ether	101-55-3	500	10	U	
12	Butyl benzyl phthalate	85-68-7	500	10	U	
13	4-Chloro-3-methylphenol	59-50-7	500	10	U	
14	4-Chloroaniline	106-47-8	2000	10	U	
15	bis(2-Chloroethoxy)methane	111-91-1	500	10	U	
16	bis(2-Chloroethyl) ether	111-44-4	500	10	U	
17	bis(2-Chloroisopropyl) ether	108-60-1	500	10	U	
18	2-Chloronaphthalene	91-58-7	500	10	U	
19	2-Chlorophenol	95-57-8	500	10	U	
20	4-Chlorophenyl phenyl ether	7005-72-3	500	10	U	
21	Chrysene	218-01-9	500	10	U	
22	Di-n-butyl phthalate	84-74-2	500	10	U	
23	Di-n-octyl phthalate	117-84-0	500	10	U	
24	Dibenz(a,h)anthracene	53-70-3	500	10	U	
25	Dibenzofuran	132-64-9	500	10	U	
26	3,3'-Dichlorobenzidine	91-94-1	2000	10	U	
27	2,4-Dichlorophenol	120-83-2	500	10	U	
28	Diethyl phthalate	84-66-2	500	10	U	
29	Dimethyl phthalate	131-11-3	500	10	U	
30	2,4-Dimethylphenol	105-67-9	500	10	U	
31	4,6-Dinitro-2-methylphenol	534-52-1	2000	10	U	
32	2,4-Dinitrophenol	51-28-5	2000	10	U	
33	2,6-Dinitrotoluene	606-20-2	500	10	U	
34	2,4-Dinitrotoluene	121-14-2	500	10	U	
35	bis(2-Ethylhexyl) phthalate	117-81-7	500	10	3600	

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Report Date: 08/24/98

ANALYTICAL REPORT

CLIENT: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLT-2

Date Sampled:	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date Extracted:	08/15/98	**ENCOTEC QC Set ID:**	BNAH1905W
Analysis Date:	08/21/98	**ENCOTEC Submission ID:**	100013219
Second Analysis Date:	N/A	**ENCOTEC Sample ID:**	200091984
Method Reference:	8270	**Percent Total Solids:**	N/A
Matrix:	LIQUID, AQUEOUS	**Calculation Basis:**	N/A

	SEMIVOLATILE ORGANICS MDEQ Part 201 List	CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
36	Fluoranthene	206-44-0	500	10	U	
37	Fluorene	86-73-7	500	10	U	
38	Hexachlorobenzene	118-74-1	500	10	U	
39	Hexachlorobutadiene	87-68-3	500	10	U	
40	Hexachlorocyclopentadiene	77-47-4	500	10	U	
41	Hexachloroethane	67-72-1	500	10	U	
42	Indeno(1,2,3-c,d)pyrene	193-39-5	500	10	U	
43	Isophorone	78-59-1	500	10	U	
44	N-Nitroso-di-n-propylamine	621-64-7	500	10	U	
45	N-Nitrosodiphenylamine	86-30-6	500	10	U	
46	Naphthalene	91-20-3	500	10	8300	
47	4-Nitroaniline	100-01-6	2000	10	U	
48	3-Nitroaniline	99-09-2	2000	10	U	
49	2-Nitroaniline	88-74-4	2000	10	U	
50	Nitrobenzene	98-95-3	500	10	U	
51	4-Nitrophenol	100-02-7	2000	10	U	
52	2-Nitrophenol	88-75-5	500	10	U	
53	Octachlorocyclopentene	706-78-5	500	10	U	
54	Pentachlorophenol	87-86-5	2000	10	U	
55	Phenanthrene	85-01-8	500	10	U	
56	Phenol	108-95-2	500	10	U	
57	Pyrene	129-00-0	500	10	U	
58	1,2,4-Trichlorobenzene	120-82-1	500	10	U	
59	2,4,6-Trichlorophenol	88-06-2	500	10	U	

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Report Date: 08/24/98

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12251 UNIVERSAL, TAYLOR, MICHIGAN 48180, TEL. (313) 946-0900
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MEMORANDUM

DATE: September 2, 1998

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Nancy Smith, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Polychlorinated Biphenyl (PCB) Data Quality Assurance Review, Daelyte Service Company, Wayne County, Michigan

REFERENCE: Project TDD: S05-9807-004
Project PAN: 8U0401SIXX
Analytical TDD: S05-9807-803
Analytical PAN: 8UAC01TAXX

The data quality assurance (QA) review of two waste-liquid samples, collected from the Daelyte Service Company site, is complete. Samples were collected on August 12, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Safety-Kleen (ENCOTEC), Ann Arbor, Michigan, for analyses of PCBs. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Method 8082 for the determination of PCB concentrations.

Sample Identification

START Identification No.	Laboratory Identification No.
DLT-1	200091983
DLT-2	200091984

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on August 12, 1998, and received by the laboratory on August 13, 1998. Samples were extracted on August 18 and 21, 1998, and analyzed on August 18 and 23, 1998. The samples were extracted within 14 days and analyzed within 40 days. Environmental holding times do not apply to concentrated waste samples. Verbal results were received between August 21 and 24, 1998, and provided to the START Project Manager. Hardcopy results and raw data were received on August 28, 1998.

II. Instrument Performance: Acceptable

All raw chromatograms were reviewed for adequate peak resolution, and all had adequate resolution between peaks for each Aroclor standard. All retention time windows for the samples and check calibration standards were reported and compared to the standard chromatograms for agreement.

III. Calibration:

A. Initial Calibration: Acceptable

Calibrations for target Aroclors were performed. All percent relative standard deviations (%RSD) for Aroclors were less than 20%.

B. Continuing Calibration: Acceptable

Continuing calibrations were performed, and percent differences (%Ds) were less than 15%.

IV. Method Blank: Acceptable

Method blanks were analyzed in the proper sequence, and all target Aroclors were below instrument detection limits.

V. Compound Identification: Acceptable

Sample chromatograms were compared with standard chromatograms, and none of the sample chromatograms appeared to have the associated fingerprint patterns for any Aroclors.

VI. Compound Quantitation and Reported Detection Limits: Acceptable

All reported detection limits have been correctly adjusted to reflect dilutions.

VII. Overall Assessment of Data: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 6.0, PCBs, and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the data is acceptable for use as reported.

ANALYTICAL REPORT

CLIENT: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLT-1

Date Sampled:	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date Extracted:	08/18/98	**ENCOTEC QC Set ID:**	PCBH1801O
Analysis Date:	08/18/98	**ENCOTEC Submission ID:**	100013219
Second Analysis Date:	N/A	**ENCOTEC Sample ID:**	200091983
Method Reference:	8082	**Percent Total Solids:**	N/A
Matrix:	LIQUID, NON-AQUEOUS	**Calculation Basis:**	Wet Weight

	PCB MDEQ Part 201 List	CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	PCB-1016	12674-11-2	500	1	U	
2	PCB-1221	11104-28-2	500	1	U	
3	PCB-1232	11141-16-5	500	1	U	
4	PCB-1242	53469-21-9	500	1	U	
5	PCB-1248	12672-29-6	500	1	U	
6	PCB-1254	11097-69-1	500	1	U	
7	PCB-1260	11096-82-5	500	1	U	

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Report Date: 08/21/98

ANALYTICAL REPORT

CLIENT: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLT-2

Date Sampled:	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date Extracted:	08/21/98	**ENCOTEC QC Set ID:**	PCBH2105W
Analysis Date:	08/23/98	**ENCOTEC Submission ID:**	100013219
Second Analysis Date:	N/A	**ENCOTEC Sample ID:**	200091984
Method Reference:	8082	**Percent Total Solids:**	N/A
Matrix:	LIQUID, AQUEOUS	**Calculation Basis:**	N/A

	PCB MDEQ Part 201 List	CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	PCB-1016	12674-11-2	1.0	1	U	
2	PCB-1221	11104-28-2	1.0	1	U	
3	PCB-1232	11141-16-5	1.0	1	U	
4	PCB-1242	53469-21-9	1.0	1	U	
5	PCB-1248	12672-29-6	1.0	1	U	
6	PCB-1254	11097-69-1	1.0	1	U	
7	PCB-1260	11096-82-5	1.0	1	U	

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Report Date: 08/24/98

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MEMORANDUM

DATE: September 8, 1998

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Nancy Smith, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Miscellaneous Analytical Data Quality Assurance Review for pH, Daelyte Service Company, Detroit, Wayne County, Michigan.

REFERENCE: Project TDD: S05-9807-004 Analytical TDD: S05-9807-803
Project PAN: 8U0401SIXX Analytical PAN: 8UAC01TAXX

The data quality assurance (QA) review of ten waste-liquid samples, collected from the Daelyte Service Company site, is complete. The samples were collected on August 12, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to Safety-Kleen (ENCOTEC), Ann Arbor, Michigan, for analyses of pH. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Methods 9040 and 9045 for pH analyses.

Sample Identification

START Identification No.	Laboratory Identification No.
DLT-1	200091983
DLT-2	200091984
DLD-1	200091985
DLC-2	200091986
DLC-3	200091987
DLC-4	200091988
DLC-5	200091989
DLC-6	200091990
DLC-7	200091991
DLC-8	200091992

Data Qualifications

I. Holding Time: Acceptable

The samples were collected on August 12, 1998, and received by the laboratory on August 13, 1998. The samples were analyzed for pH on August 16 and 17, 1998. The Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 does not specify holding times for pH. All samples were collected and stored in closed glass containers. In this reviewer's professional judgement, sample integrity was not compromised. Verbal results were received and provided to the START Project Manager on August 18, 1998. Hardcopy analytical results and raw data were received on August 28, 1998.

II. Calibration: Acceptable

pH - Buffers (4.0 and 7.0) were analyzed prior to sample analysis for pH. All pH buffers were within 0.1 standard units of the true value of each buffer.

III. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Generic Data Validation Procedures, Section 9.0, Non-Metal Inorganic Parameters; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the pH results are acceptable for use as reported.

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MEMORANDUM

DATE: September 8, 1998

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Nancy Smith, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Flash Point Analytical Data Quality Assurance Review, Daelyte Service Company, Detroit, Wayne County, Michigan.

REFERENCE: Project TDD: S05-9807-004 Analytical TDD: S05-9807-803
Project PAN: 8U0401SIXX Analytical PAN: 8UAC01TAXX

The data quality assurance (QA) review of five waste-liquid samples, collected from the Daelyte Service Company site, is complete. The samples were collected on August 12, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to Safety-Kleen (ENCOTEC), Ann Arbor, Michigan, for analyses of flash point. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Methods 1010 for flash point analyses.

Sample Identification

START Identification No.	Laboratory Identification No.
DLT-1	200091983
DLT-2	200091984
DLC-6	200091990
DLC-7	200091991
DLC-8	200091992

Data Qualifications

I. Holding Time: Acceptable

The samples were collected on August 12, 1998, and received by the laboratory on August 13,

1998. The samples were analyzed for flash point on August 17, 1998. The Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 does not specify holding times for flash point. All samples were collected and stored in closed glass containers. In this reviewer's professional judgement, sample integrity was not compromised. Verbal results were received and provided to the START Project Manager on August 18, 1998. Hardcopy analytical results and raw data were received on August 28, 1998.

II. Calibration: Acceptable

A calibration standard was analyzed prior to sample analysis for flash point and it was within the acceptable range of plus or minus 2° Fahrenheit from the theoretical value.

III. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Generic Data Validation Procedures, Section 9.0, Non-Metal Inorganic Parameters; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the flash point results are acceptable for use as reported.

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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIROMENTAL, INC.
Project Number: 71060
Report Date: August 18, 1998

Sample I.D.: DLT-1
Sample Date: 08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091983

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Flashpoint	WFPH1705	08/17/98	1010	^{0}F	>200	73^{0}F	140^{0}F
Corrosivity (as pH)	WPHH1608	08/16/98	9045	S.U.	5.6	NA	2 ≤ pH ≤ 12.5

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25^{0}C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIROMENTAL, INC.
Project Number: 71060
Report Date: August 18, 1998

Sample I.D.: DLT-2
Sample Date: 08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091984

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Flashpoint	WFPH1705	08/17/98	1010	^{0}F	>200	73^{0}F	140^{0}F
Corrosivity (as pH)	WPHH1607	08/16/98	9040	S.U.	7.1	NA	$2 \leq pH \leq 12.5$

[1] Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
[2] Specific Gravity is expressed as a ratio relative to unity (density of water at 25^{0}C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIROMENTAL, INC.
Project Number: 71060
Report Date: August 18, 1998

Sample I.D.: DLD-1
Sample Date: 08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091985

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Corrosivity (as pH)	WPHH1608	08/16/98	9045	S.U.	<1	NA	2 ≤ pH ≤ 12.5

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIROMENTAL, INC.
Project Number: 71060
Report Date: August 18, 1998

Sample I.D.: DLC-2
Sample Date: 08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091986

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Corrosivity (as pH)	WPHH1705	08/17/98	9040	S.U.	<1	NA	$2 \leq pH \leq 12.5$

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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Form 120WPN1G.GN6

Rev. 08/10/98

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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIROMENTAL, INC.
Project Number: 71060
Report Date: August 18, 1998

Sample I.D.: DLC-3
Sample Date: 08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091987

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Corrosivity (as pH)	WPHH1607	08/16/98	9040	S.U.	9.6	NA	$2 \leq pH \leq 12.5$

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIROMENTAL, INC.
Project Number: 71060
Report Date: August 18, 1998

Sample I.D.: DLC-4
Sample Date: 08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091988

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Corrosivity (as pH)	WPHH1607	08/16/98	9040	S.U.	<1	NA	$2 \leq pH \leq 12.5$

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

Form 120WPN1G.GN6 Rev. 08/10/98

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3985 Research Park Drive * Ann Arbor, MI 48108
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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIROMENTAL, INC.
Project Number: 71060
Report Date: August 18, 1998

Sample I.D.: DLC-5
Sample Date: 08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091989

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Corrosivity (as pH)	WPHH1607	08/16/98	9040	S.U.	<1	NA	$2 \leq pH \leq 12.5$

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIRONMENTAL, INC.
Project Number: 71060
Report Date: August 18, 1998

Sample I.D.: DLC-6
Sample Date: 08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091990

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Flashpoint	WFPH1705	08/17/98	1010	^{0}F	171	73^{0}F	140^{0}F
Corrosivity (as pH)	WPHH1608	08/16/98	9045	S.U.	4.8	NA	2 $\leq$ pH $\leq$ 12.5

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25^{0}C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

Form 120WPN1G.GN6 Rev. 08/10/98

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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIRONMENTAL, INC.
Project Number: 71060
Report Date: August 18, 1998

Sample I.D.: DLC-7
Sample Date: 08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091991

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Flashpoint	WFPH1705	08/17/98	1010	^{0}F	113	73^{0}F	140^{0}F
Corrosivity (as pH)	WPHH1608	08/16/98	9045	S.U.	5.2	NA	2 ≤ pH ≤ 12.5

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25^{0}C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIRONMENTAL, INC.
Project Number: 71060
Report Date: August 18, 1998

Sample I.D.: DLC-8
Sample Date: 08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091992

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Flashpoint	WFPH1705	08/17/98	1010	^{0}F	164	73^{0}F	140^{0}F
Corrosivity (as pH)	WPHH1608	08/16/98	9045	S.U.	4.3	NA	2 $\leq$ pH $\leq$ 12.5

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25^{0}C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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MEMORANDUM

DATE: September 8, 1998

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Nancy Smith, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Miscellaneous Analytical Data Quality Assurance Review for Reactive Cyanide and Reactive Sulfide, Daelyte Service Company, Detroit, Wayne County, Michigan.

REFERENCE: Project TDD: S05-9807-004 Analytical TDD: S05-9807-803
Project PAN: 8U0401SIXX Analytical PAN: 8UAC01TAXX

The data quality assurance (QA) review of three liquid/waste samples, collected from the Daelyte Service company site, is complete. The samples were collected on August 12, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to Safety-Kleen (ENCOTEC), Ann Arbor, Michigan, for analyses of reactive cyanide and reactive sulfide. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Methods 7.3.3.2 for reactive cyanide analyses and 7.3.4.2 for reactive sulfide analyses.

Sample Identification

START Identification No.	Laboratory Identification No.
DLC-6	200091990
DLC-7	200091991
DLC-8	200091992

Data Qualifications

I. Holding Time: Acceptable

The samples were collected on August 12, 1998, and received by the laboratory on August 13, 1998. The samples were analyzed for reactive cyanide and reactive sulfide on August 20, 1998.

The Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 does not specify holding times for non-environmental samples. Environmental holding times do not apply to concentrated waste samples. All samples were collected and stored in closed glass containers. In this reviewer's professional judgement, sample integrity was not compromised. Verbal results were received and provided to the START Project Manager on August 21, 1998. Hardcopy analytical results and raw data were received on August 28, 1998.

II. Calibration: Acceptable

Calibration standards for reactive cyanide and sulfide were analyzed along with the samples, and percent recoveries were 24% for reactive cyanide, and 82% for reactive sulfide. The U.S. EPA methods for reactive cyanide and reactive sulfide state that the standard recovery for each test should be evaluated based on historical laboratory data. The standard recoveries were within the laboratory quality control windows of detection to 100%.

III. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Generic Data Validation Procedures, Section 9.0, Non-Metal Inorganic Parameters; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the reactive cyanide and reactive sulfide results are acceptable for use as reported.

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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY AND ENVIRONMENT INC.
Project Number: 71060
Report Date: August 20, 1998

Sample I.D.:DLC-6
Sample Date:08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091990

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Reactive Cyanide	WCNH1804	08/18/98	7.3.3.2	mg/Kg	U	200	250
Reactive Sulfide	WRSH1804	08/18/98	7.3.4.2	mg/Kg	U	50	500

1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY AND ENVIRONMENT INC.
Project Number: 71060
Report Date: August 20, 1998

Sample I.D.:DLC-7
Sample Date:08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091991

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Reactive Cyanide	WCNH1804	08/18/98	7.3.3.2	mg/Kg	U	200	250
Reactive Sulfide	WRSH1804	08/18/98	7.3.4.2	mg/Kg	U	50	500

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1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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WASTE ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY AND ENVIRONMENT INC.
Project Number: 71060
Report Date: August 20, 1998

Sample I.D.:DLC-8
Sample Date:08/12/98
Date Received: 08/13/98
ENCOTEC I.D.: 200091992

U = Analyte not detected.

ANALYTE	QC SET ID	ANALYSIS DATE	METHOD	UNITS	RESULT	REPORT LIMIT	REGULATORY LIMIT
Reactive Cyanide	WCNH1804	08/18/98	7.3.3.2	mg/Kg	U	200	250
Reactive Sulfide	WRSH1804	08/18/98	7.3.4.2	mg/Kg	U	50	500

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1) Results of Paint Filter Test are "Free Liquid (FL)" or "No Free Liquid (NFL)."
2) Specific Gravity is expressed as a ratio relative to unity (density of water at 25°C).
S.U. = Standard Units.
cps = centipoise
Percent ash and halogens analyses are performed on the residue from analysis by method 5050 and its aqueous solution.
Note:

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MEMORANDUM

DATE: September 2, 1998

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Nancy Smith, START Chemist , E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Toxicity Characteristic Leaching Procedure (TCLP) and Total Resource Conservation and Recovery Act (RCRA) Metals, plus Copper and Zinc, Data Quality Assurance Review, Daelyte Service Company, Detroit, Wayne County, Michigan

REFERENCE: Project TDD: S05-9807-004 Analytical TDD: S05-9807-803
Project PAN: 8U0401SIXX Analytical PAN: 8UAC01TAXX

The data quality assurance (QA) review of two waste-liquid samples and three waste-solid samples, collected from the Daelyte Service Company site, is complete. Samples were collected on August 12, 1998, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Safety-Kleen (ENCOTEC), Ann Arbor, Michigan, for analyses of TCLP and total RCRA metals, plus copper and zinc. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste (SW-846) Methods 1311, 6010, and 7470 for the determination of TCLP and total RCRA metals, plus copper and zinc, concentrations.

Sample Identification

START Identification No.	Laboratory Sample Identification
DLT-1	200091983
DLT-2	200091984
DLC-9	200091996
DLC-10	200091997
DLC-11	200091998

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on August 12, 1998, and received by the laboratory on August 13, 1998. Samples were analyzed between August 17 and 20, 1998, for TCLP and total RCRA metals, plus copper and zinc. All analyses were completed within the holding times specified in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01; 28 days for mercury and 6 months for all other RCRA metals. Verbal results were received and provided to the START Project Manager between August 18, and August 24, 1998. Hardcopy analytical results and raw data were received on August 28, 1998.

II. Calibration

A. Initial Calibration: Acceptable

Percent recoveries (%Rs) for initial calibration standards were within the recommended limits of 80 to 120% for mercury and 90 to 110% for all other metals.

B. Continuing Calibration: Acceptable

Calibration verification standards were analyzed at the beginning of the analytical run and repeated after every 10 samples for each day of analyses for the metals. All continuing calibration standard %Rs were within 80 to 120% for mercury and 90 to 110% for all other metals.

III. Method Blanks: Acceptable

Calibration blanks were analyzed with the samples, and all analyte concentrations were below instrument detection limits for all parameters.

IV. Interference Check Samples: Acceptable

All inductively coupled plasma (ICP) atomic emission spectroscopy interference check samples were within 20% of mean values.

V. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 3.0, Metallic Inorganic Parameters; and Section 2.7, Quality Assurance Requirements for QA Level II work. Based upon the information provided, the data are acceptable for use as reported.

ANALYTICAL REPORT

Client: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLT-1

Date Sampled	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date Extracted:	N/A	**ENCOTEC QC Set ID:**	See below
Date Analyzed:	See below	**ENCOTEC Submission ID:**	100013219
Method Reference:	See below	**ENCOTEC Sample ID:**	200091983
Matrix:	LIQUID, NON-AQUEOUS	**Analyte List:**	N/A
Percent Total Solids:	N/A	**Calculation Basis:**	Wet Weight

	Metals Inorganics	QC Set ID	Date Analyzed	Method Ref.	Units	Quant Limit	Dil	Conc	Flag
1	Arsenic	HYDH1801	08/18/98	7061	mg/Kg	0.10	1	U	
2	Barium	ICPH1602	08/17/98	6010	mg/Kg	1.0	1	U	
3	Cadmium	ICPH1602	08/17/98	6010	mg/Kg	0.25	1	U	
4	Chromium	ICPH1602	08/17/98	6010	mg/Kg	1.0	1	U	
5	Copper	ICPH1602	08/17/98	6010	mg/Kg	1.0	1	U	
6	Lead	ICPH1602	08/17/98	6010	mg/Kg	2.0	1	U	
7	Mercury	CVAH1403	08/17/98	7471	mg/Kg	0.040	1	U	
8	Selenium	HYDH1801	08/18/98	7741	mg/Kg	0.50	1	U	
9	Silver	ICPH1602	08/17/98	6010	mg/Kg	0.50	1	U	
10	Zinc	ICPH1602	08/17/98	6010	mg/Kg	1.0	1	U	

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Report Date: 08/27/98

ANALYTICAL REPORT

Client: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLT-2

Date Sampled	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date Extracted:	N/A	**ENCOTEC QC Set ID:**	See below
Date Analyzed:	See below	**ENCOTEC Submission ID:**	100013219
Method Reference:	See below	**ENCOTEC Sample ID:**	200091984
Matrix:	LIQUID, AQUEOUS	**Analyte List:**	N/A
Percent Total Solids:	N/A	**Calculation Basis:**	N/A

	Metals Inorganics	QC Set ID	Date Analyzed	Method Ref.	Units	Quant Limit	Dil	Conc	Flag
1	Arsenic	HYDH1801	08/18/98	7061	mg/L	0.0020	1	0.0024	
2	Barium	ICPH1701	08/17/98	6010	mg/L	0.020	1	0.037	
3	Cadmium	ICPH1701	08/17/98	6010	mg/L	0.0050	1	U	
4	Chromium	ICPH1701	08/17/98	6010	mg/L	0.020	1	U	
5	Copper	ICPH1701	08/17/98	6010	mg/L	0.020	1	U	
6	Lead	ICPH1701	08/17/98	6010	mg/L	0.040	1	0.68	
7	Mercury	CVAH1403	08/17/98	7470	mg/L	0.00020	1	U	
8	Selenium	HYDH1801	08/18/98	7741	mg/L	0.0050	1	U	
9	Silver	ICPH1701	08/17/98	6010	mg/L	0.010	1	U	
10	Zinc	ICPH1701	08/18/98	6010	mg/L	0.040	2	0.093	

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Report Date: 08/27/98

ANALYTICAL REPORT

Client: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLC-9

Date Sampled	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date TCLP:	08/18/98	**ENCOTEC QC Set ID:**	See below
Date Analyzed:	See below	**ENCOTEC Submission ID:**	100013219
Method Reference:	See below	**ENCOTEC Sample ID:**	200091996
Matrix:	TCLP EXTRACT	**Analyte List:**	N/A
Percent Total Solids:	N/A	**Calculation Basis:**	N/A

	Metals Inorganics	QC Set ID	Date Analyzed	Method Ref.	Units	Quant Limit	Dil	Conc	Flag	Reg. Level
1	Arsenic	ICPH1803	08/19/98	6010	mg/L	0.50	1	U		5 mg/L
2	Barium	ICPH1803	08/19/98	6010	mg/L	5.0	1	U		100 mg/L
3	Cadmium	ICPH1803	08/19/98	6010	mg/L	0.040	1	U		1 mg/L
4	Chromium	ICPH1803	08/19/98	6010	mg/L	0.050	1	U		5 mg/L
5	Copper	ICPH1803	08/19/98	6010	mg/L	5.0	1	U		100 mg/L
6	Lead	ICPH1803	08/19/98	6010	mg/L	0.10	1	0.16		5 mg/L
7	Mercury	CVAH2001	08/20/98	7470	mg/L	0.00020	1	U		0.2 mg/L
8	Selenium	ICPH1803	08/19/98	6010	mg/L	0.10	1	U		1 mg/L
9	Silver	ICPH1803	08/19/98	6010	mg/L	0.050	1	U		5 mg/L
10	Zinc	ICPH1803	08/19/98	6010	mg/L	5.0	10	710		500 mg/L

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Report Date: 08/27/98

ANALYTICAL REPORT

Client: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLC-10

Date Sampled	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date TCLP:	08/18/98	**ENCOTEC QC Set ID:**	See below
Date Analyzed:	See below	**ENCOTEC Submission ID:**	100013219
Method Reference:	See below	**ENCOTEC Sample ID:**	200091997
Matrix:	TCLP EXTRACT	**Analyte List:**	N/A
Percent Total Solids:	N/A	**Calculation Basis:**	N/A

	Metals Inorganics	QC Set ID	Date Analyzed	Method Ref.	Units	Quant Limit	Dil	Conc	Flag	Reg. Level
1	Arsenic	ICPH2002	08/20/98	6010	mg/L	0.50	1	U		5 mg/L
2	Barium	ICPH2002	08/20/98	6010	mg/L	5.0	1	U		100 mg/L
3	Cadmium	ICPH2002	08/20/98	6010	mg/L	0.040	1	U		1 mg/L
4	Chromium	ICPH2002	08/20/98	6010	mg/L	0.050	1	U		5 mg/L
5	Copper	ICPH2002	08/20/98	6010	mg/L	5.0	1	U		100 mg/L
6	Lead	ICPH2002	08/20/98	6010	mg/L	0.10	1	U		5 mg/L
7	Mercury	CVAH2001	08/20/98	7470	mg/L	0.0020	10	0.015		0.2 mg/L
8	Selenium	ICPH2002	08/20/98	6010	mg/L	0.10	1	U		1 mg/L
9	Silver	ICPH2002	08/20/98	6010	mg/L	0.050	1	U		5 mg/L
10	Zinc	ICPH2002	08/20/98	6010	mg/L	5.0	1	U		500 mg/L

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Report Date: 08/27/98

ANALYTICAL REPORT

Client: ECOLOGY & ENVIRONMENT, INC.
Project/Site: KJ5103
Sample ID: DLC-11

Date Sampled	08/12/98	**ENCOTEC Project ID:**	71060
Date Received:	08/13/98	**ENCOTEC SDG ID:**	EE-WC-98H2
Date TCLP:	08/18/98	**ENCOTEC QC Set ID:**	See below
Date Analyzed:	See below	**ENCOTEC Submission ID:**	100013219
Method Reference:	See below	**ENCOTEC Sample ID:**	200091998
Matrix:	TCLP EXTRACT	**Analyte List:**	N/A
Percent Total Solids:	N/A	**Calculation Basis:**	N/A

	Metals Inorganics	QC Set ID	Date Analyzed	Method Ref.	Units	Quant Limit	Dil	Conc	Flag	Reg. Level
1	Arsenic	ICPH1803	08/19/98	6010	mg/L	0.50	1	U		5 mg/L
2	Barium	ICPH1803	08/19/98	6010	mg/L	5.0	1	U		100 mg/L
3	Cadmium	ICPH1803	08/19/98	6010	mg/L	0.040	1	0.16		1 mg/L
4	Chromium	ICPH1803	08/19/98	6010	mg/L	0.050	1	U		5 mg/L
5	Copper	ICPH1803	08/19/98	6010	mg/L	5.0	1	U		100 mg/L
6	Lead	ICPH1803	08/19/98	6010	mg/L	0.10	1	9.6		5 mg/L
7	Mercury	CVAH2001	08/20/98	7470	mg/L	0.0020	10	0.039		0.2 mg/L
8	Selenium	ICPH1803	08/19/98	6010	mg/L	0.10	1	U		1 mg/L
9	Silver	ICPH1803	08/19/98	6010	mg/L	0.050	1	U		5 mg/L
10	Zinc	ICPH1803	08/19/98	6010	mg/L	5.0	10	1000		500 mg/L

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Report Date: 08/27/98

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MEMORANDUM

DATE: September 1, 1998

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Nancy Smith, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Total Petroleum Hydrocarbon (TPH) Data Quality Assurance Review, Daelyte Service Company, Detroit, Wayne County, Michigan

REFERENCE: Project TDD: S05-9807-004
Project PAN: 8U0401SIXX
Analytical TDD: S05-9807-803
Analytical PAN: 8UAC01TAXX

The data quality assurance (QA) review of two waste-liquid samples, collected from the Daelyte Service Company site, is complete. Samples were collected on August 12, 1998 by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Safety-Kleen (ENCOTEC), Ann Arbor, Michigan, for TPH analyses. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Method 8015 for the determination of TPH concentrations.

Sample Identification

START Identification No.	Laboratory Identification No.
DLT-1	200091983
DLT-2	200091984

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on August 12, 1998, and received by the laboratory on August 13, 1998. Gasoline range organics were analyzed on August 20, 1998. Samples were extracted on August 20 and 23, 1998, for diesel range organics and analyzed on August 24, 1998. Neither the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01, nor the method specify a particular holding time for this matrix and/or method. Environmental sample holding times do not apply to concentrated waste samples. The samples were collected and stored in closed glass

containers, and in this reviewer's professional judgement, sample integrity was not compromised. Verbal results were received on August 24, 1998, and hardcopy data results were received on August 28, 1998.

II. Instrument Performance: Acceptable

All raw chromatograms were reviewed for adequate peak resolution, and all had adequate resolution between peaks of each fingerprint pattern for each standard. Retention time windows for the samples and calibration standards were reported and compared to the standard chromatograms for agreement.

III. Calibration:

A. Initial Calibration: Acceptable

All percent relative standard deviations (%RSDs) were less than or equal to 20%. The 20 % established limit is based on SW-846 Method 8000.

B. Continuing Calibration: Acceptable

All continuing calibration standard % differences were within 15% from the initial calibration.

III. Method Blanks: Acceptable

Method blanks were analyzed with the samples. All analyte concentrations were below instrument detection limits.

IV. Compound Identification: Acceptable

All retention times and relative peak height ratios were appropriately compared to all standard chromatograms, and all retention time windows were in agreement.

V. Compound Quantitation and Reported Detection Limits: Acceptable

All reported detection limits have been correctly adjusted to reflect dilutions.

VI. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 9.0, Generic Validation Procedures: GC Analyses, and Section 2.7, Quality Assurance Requirements for QA Level II work. Based upon the information provided, the data are acceptable for use as reported.

Safety-Kleen (ENCOTEC), Inc.
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ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIRONMENT, INC.
Project Number: 71060
Method: GRO
Report Date: August 21, 1998

Sample I.D.: DLT-1
Sample Date: 08/12/98
Date Received: 08/13/98
Date Analyzed: 08/20/98
ENCOTEC I.D.: 200091983
QC Set I.D.: VGMH1901W

U = Analyte not detected.

HYDROCARBON	**CAS NUMBER**	**CONC.** (mg/L)	**DETECTION LIMIT** (mg/L)
Gasoline Range Organics	----	24000	2500

Note:

Form 018VWN1G.GEN Rev. 08/10/98

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ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIRONMENT, INC.
Project Number: 71060
Method: DRO
Report Date: August 25, 1998

Sample I.D.: DLT-1
Sample Date: 08/12/98
Date Received: 08/13/98
Date Extracted: 08/20/98
Date Analyzed: 08/24/98
ENCOTEC I.D.: 200091983
QC Set I.D.: DROH2002O

U = Analyte not detected.

HYDROCARBON	**CAS NUMBER**	**CONC.** (mg/Kg)	**DETECTION LIMIT** (mg/Kg)
Diesel Range Organics	----	180000	50000

Analysis reported on _X_ WET ____ DRY weight basis.

Percent Total Solids __NA__

Note:

Form 059SSL1G.GN2 Rev. 08/10/98

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ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIRONMENT INC.
Project Number: 71060
Method: GRO
Report Date: August 21, 1998

Sample I.D.: DLT-2
Sample Date: 08/12/98
Date Received: 08/13/98
Date Analyzed: 08/20/98
ENCOTEC I.D.: 200091984
QC Set I.D.: VGMH1901W

U = Analyte not detected.

HYDROCARBON	CAS NUMBER	CONC. (mg/L)	DETECTION LIMIT (mg/L)
Gasoline Range Organics	----	92	50

Note:

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ORGANIC ANALYSIS DATA SUMMARY SHEET

Project Name: ECOLOGY & ENVIRONMENT, INC.
Project Number: 71060
Method: DRO
Report Date: August 25, 1998

Sample I.D.: DLT-2
Sample Date: 08/12/98
Date Received: 08/13/98
Date Extracted: 08/23/98
Date Analyzed: 08/24/98
ENCOTEC I.D.: 200091984
QC Set I.D.: DROH0601W

U = Analyte not detected.

HYDROCARBON	CAS NUMBER	CONC. (mg/L)	DETECTION LIMIT (mg/L)
Diesel Range Organics	----	29	2.0

Note: